- A7121-14 8/91

State Information Resource Management, Structure and Activities

NASIRE

1990 - 91
NASIRE
Report

Produced by the National Association of State Information Resource Executives • Iron Works Pike • P.O. Box 11910
Lexington, KY 40578-1910 • (606) 231-1905 • FAX (606) 231-1928

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National Association of State Information Resource Executives
Iron Works Pike, P.O. Box 11910
Lexington, KY 40578-1910
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FAX: (606) 231-1928

Order Department: 1-800-800-1910

C-007-91
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FOREWORD

State Information Resource Management, Structure and Activities: 1990-91 NASIRE Report provides a unique look at how information resources are organized and managed in the 50 states and the District of Columbia. It also represents a first attempt at establishing a revised research strategy for the association. The report is designed to provide a broad overview of national trends while giving state-by-state examples in comparison charts.

On behalf of the association, I would like to extend my appreciation to NASIRE members who made the time to complete the survey and to provide up-to-date information on how their states manage their information resources. I also would like to acknowledge the contribution of the 1990 - 91 NASIRE Executive Committee and the Annual Report Advisory Committee, whose comments on the design of the survey instrument and compilation of the final report were invaluable.

I hope you will find this report of use and will reach for it often as a means to gauge your state's development and direction in the management of information technology. I welcome your comments on its content as well as suggestions for future research projects of the association.

Bradley S. Dugger, Tennessee
Chairperson, 1990-91 Annual Report Advisory Committee

About NASIRE

NASIRE represents information resource executives and managers from the 50 states, six U.S. territories, and the District of Columbia. Representatives from federal, municipal, and foreign governments participate in the organization as associate members. Private-sector firms may join as corporate members.

The association was founded in 1969 as the National Association for State Information Systems or NASIS. In 1989, the membership voted to undertake a major realignment of the association, including a change in name, expansion of membership, and transfer of administrative services to The Council of State Governments. All of the changes were aimed at providing NASIRE members with the information they need to meet their growing responsibilities in the '90s.

NASIRE Mission

NASIRE's mission is threefold:

- To provide a forum for senior policy-level information resource executives responsible for addressing the opportunities, implications, and challenges related to information technology in a governmental environment.
- To provide a forum for information resource executives to exchange information, professional experiences, and knowledge related to the application of technology to governmental programs.
- To provide a vehicle to identify information technology issues, and a means to advise other organizations.

NASIRE Membership

NASIRE has three primary categories of membership. **State members** are senior officials from any of the three branches (executive, legislative, or judicial) of state government who have executive-level responsibility for information resource management. State members can vote, hold office, and chair committees and technology interest groups. **Associate members** are senior information resource executives from non-state governmental bodies (city, county, federal, or foreign government or state officials who are involved in information resource management but do not have chief responsibility for that function). **Corporate members** are senior information resource executives from private-sector corporations, non-profit organizations and private universities. The association also designates life and honorary members. **Life members** are those individuals who have given meritorious service to the association; membership may be given or current or former NASIRE members. **Honorary members** are those individuals who have given meritorious service to the association, but who have not previously been a member of the association.

NASIRE Governance

NASIRE is governed by a nine-member Executive Committee consisting of five officers-- President, Immediate Past President, First Vice President, Second Vice President, and Secretary/Treasurer and directors from each of four regions: Eastern, Midwestern, Southern, and Western. The officers are elected annually.

NASIRE Activities

NASIRE provides numerous opportunities for government information resource executives to learn about new developments in their field and to share their own knowledge and expertise with others. Membership benefits include:

Annual conference

Nationally recognized speakers are featured at each annual conference, which is organized around a central theme. Although NASIRE invites all interested parties to attend its annual conference, NASIRE members pay reduced fees.

Regional meetings
The NASIRE national organization is divided into four regions--Eastern, Midwestern, Southern and Western--each headed by a regional director. Meetings focus on regional concerns shared by government organizations.

Quarterly newsletter
The NASIRE *Exchange* keeps members informed of association news and events nation-wide that may affect information resource executives. It also serves as a medium for members to request information and assistance with particular problems.

Electronic bulletin board
An electronic bulletin board serves as a communication link between NASIRE members. Each member receives a password and may dial into the board through a toll-free number.

Survey research
NASIRE publishes periodic survey reports that contain overviews of information resource management policies and practices.

Information clearinghouse
NASIRE staff are always happy to put association members in touch with other members with similar problems or interests. In addition, the staff office collects information from state agencies to use as resources for the NASIRE *Exchange* and for all NASIRE members.

Awards program
NASIRE awards are presented annually to recognize ways technology can be used to make government programs more successful and efficient. Nominations are judged on the basis of significance, creativity, proven usefulness and transferability to other states.

Cooperation with other organizations
NASIRE serves as a liaison with related associations of government officials such as the Chief Officers of State Library Agencies (COSLA), the National Association of State Telecommunications Directors (NASTD), and the National Association of Government Archives and Records Administrators (NAGARA). The association also tracks state and federal regulations and legislation affecting information resource management.

Technology Interest Groups

Members can participate in technology interest groups or TIGs which are designed to provide a forum for an indepth discussion of key issues. Each TIG has a chairperson who is elected by each group annually. TIGs meet in conjunction with regular NASIRE conferences and pursue projects during the year. Committees include:

- **Standards, Policies, and Guidelines Interest Group:**

Provides the basis for identifying and exchanging information in selected policy issues at the state level. Summarizes the fundamental state policies of standards that make up the general approach of strategy that member states have elected to pursue.

- **Security Interest Group:**

Provides a basis for identifying and exchanging information in selected security policy issues at the state level. Issues include security interfaces required to protect the integrity of data, coordinate federal/state computer security related activities, exchanging information in areas such as security devices, security software, and integrated network security.

- **Human Resources Interest Group:**

Examines human resources policy issues such as general policies and approaches regarding hiring and retaining qualified personnel, classification, titles, compensation, staff development, management and technical training, productivity, motivation, creating the proper organizational environment, health maintenance issues, enhanced communications and skills identification.

- **Geographic Information Systems Interest Group:**

Identifies and exchanges information on selected GIS issues at the state level. Issues include equipment, software, spatial and database information exchange and development of implementation recommendations for new users and potential users. Additional information exchange in the areas of data gathering techniques, existing in-house applications by agency and solving specific spacial problems.

Administrative Services

NASIRE is an affiliate organization of The Council of State Governments and the Council provides administrative support to the association. The Council of State Governments is a national nonpartisan organization that provides state elected and appointed officials with information tools and decision-making strategies needed to develop and implement public policy.

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INTRODUCTION

State Information Resource Management, Structure and Actitivies: 1990-91 NASIRE Report is a comprehensive review of information resource organizations in the 50 states and the District of Columbia. It is designed to serve as the standard reference source on state information resource management, structure and activities as well as to exchange information, professional experiences, and knowledge related to the application of technology to government services. Based on a 50-state response by key state information resource officials, the report shows what the states are doing in information resource management in the areas of organization, financing, human resources, information applications, and emerging trends.

The report is a product of the National Association of State Information Resource Executives, which represents over 360 state information resource executives in each of the 50 states, six U.S. territories, and the District of Columbia. The association was founded in 1969 as the National Association for State Information Systems or NASIS. This report continues a series of state summaries distributed annually since 1970. (The report was suspended in 1989-90 for revision to its format.) The survey instrument was mailed early in 1991 to the senior information resource officials in the executive branch in each of the 50 states and the District of Columbia. All 50 states and the District of Columbia responded to the survey, yielding a 100% response rate that provides the opportunity to view national trends and yet observe each state's information resource policy and operations.

The report covers a full range of information resource issues. Organizational issues regarding policy and operations, reorganization, and centralization of a wide range of functions are covered in Chapter One. Chapter Two reports on state information technology, funding structures, chargeback procedures, and procurement. Chapter Three focuses on human resource issues, including training, recruitment, and job classification. Multi-agency information systems and innovative systems applications are the subject of Chapter Four. Information resource planning and initiatives are the focus of Chapter Five, which specifically covers legislation, state strategic planning, and suggested national initiatives. Chapter Six closes with a look at trends in technology and in information resource management as reported by the states. Each chapter contains a narrative overview followed by a series of charts. The report also contains two sets of rosters: A list at the end of Chapter One includes individuals responsible for statewide computer services within state government, for the central operating agency, for information technology policy formulation, and for information systems training. The appendix includes a complete list of NASIRE members.

Several assumptions used in the design of the survey instrument and compilation of the report should be considered by readers of the report. First, the survey made the assumption that responding states would have a central information resource organization. Most states have some type of central information resource organization, and this assumption was made in order to learn more about the organization. However, a few states do not have a central information resource organization. In these states, information resource management functions are distributed to a number of departments and agencies. Therefore, several agencies may be responsible for some functions that are not reported here.

Secondly, all responses to questions are based on answers provided by one individual from each state. The quality of the survey respondents was excellent. All are senior if not the top information resource executive in the states. Nevertheless, responses reflect the perspective of the individual and his or her interpretation of the questions. In several cases, follow-up calls were made to ensure that questions had not been misinterpreted and that responses were given from a state's rather than individual agency's point-of-view. Any errors or corrections to the data presented should be brought to the attention of the NASIRE office.

Finally, all states did not respond to every question. Those charts listing responses from fewer than 50 states and the District of Columbia reflect only those responses received.

This report was conducted under the direction of the NASIRE Executive Committee and the 1990-91 Annual Report Advisory Committee: Bradley Dugger (TN), Chairperson; Sharon Dawes (NY); Dale Johnson (KS); Frank Johnson (CT); Karen Newman (MS); and Sue Short (BellSouth). Administrative support was provided by Louise Spieler, NASIRE staff director, and Daren Arnold and Matthew Stockham, NASIRE research assistants, through the Council of State Governments. Linda Dickinson designed the publication at The Council of State Governments.

EXECUTIVE SUMMARY

As information technology investments have grown in cost and complexity, many states have sought to centralize information resource management, usually through the formation of an information resource office located in the executive branch. These offices serve a number of purposes from monitoring computer and telecommunications procurement to ensuring that state agencies work together to share data to helping the state develop a strategic plan to maximize its information technology investment. From the perspective of these centralized offices, this report tracks developments in six key areas of information resource management in state government: organizational structure of IRM operations and policymaking; funding and procurement; human resources; new and innovative applications of information technology; state and federal legislation and regulations and strategic planning initiatives; and trends.

The report covers responses received from a survey conducted by the National Association of State Information Resource Executives in January 1991. The survey was mailed to one senior information resource official in the executive branch in each of the 50 states and the District of Columbia. Responses were tabulated and analyzed by NASIRE through The Council of State Governments.

ORGANIZATION

The explosion of information technology in recent years has expanded the services available through state government. However, these same advances have also created a challenge for the states to manage the data processing and telecommunications resources that make many of these services possible. In response to these growing demands, increasing authority for information resource management is being placed under the direction of a central office, according to the 1990-91 NASIRE Report. Forty-seven states and the District of Columbia named one person who is responsible for statewide computer services. Twenty-eight of these positions are appointed and 20 are career posts. Only California, Michigan, and New York did not name a person responsible for some degree of responsibility for centralized state information resource management. In a number of states, this chief officer is responsible for both maintaining operations and guiding policymaking for information resources. In 25 states the policy and operations functions are combined under one information resource organization. However, states assign responsibility for these two areas in different ways.

Central policy agencies are found in 44 states and the District of Columbia. Nine are at the cabinet level, six are independent agencies, and 30 are sub-cabinet level departments. For most states, the central policy organization was created either from 1969 to 1972 or from 1981 to 1989. Nearly half of the central policy organizations function as a regulatory body. The remaining act either as an advisory body or a regulatory and advisory body. Thirty-nine states reported having a central operating agency. Telecommunications and data processing operations are being combined under the umbrella of one department in a growing number of states. The central information resource operating agency in 27 states includes responsibility for telecommunications.

Reorganization involving information resource organizations occurred in 21 states since 1989 as the result of both internal and external reviews. Increased efficiency and effectiveness led the list of reasons for the reorganizations. Generally, a reorganization resulted in authority either increasing or remaining the same; only two states--Florida and Nebraska--saw a decrease in authority.

Although a state may have a central information resource organization for policy and/or operations, the centralization of the IRM functions varies from state to state. When asked to rank the centralization of 11 information resource policy and operations functions, overall states rated information resource policy functions as more centralized than operations functions. Although all the policy functions in question but one were rated more centralized than decentralized, the same number of operations function were rated decentralized as centralized. Hardware procurement and review and telecommunications topped the list of centralized functions in both the policy and operations area. Systems development, training, technical assessments, and data processing budgeting were reported as the least centralized functions in the two areas.

When the rankings per 11 functions were averaged for each of the states, 33 states appeared as being highly to moderately centralized in the policy area with 26 states ranking themselves similarly for operations.

The report also found that the majority of states are taking steps to bring users together to discuss information resource problems and solutions. Thirty-one states reported maintaining some type of "user groups" in an effort to better coordinate and deliver information services. The report also revealed that all states except Vermont have at least one data center with a budget over $5 million dollars. Florida reported the most with 18 data centers.

FUNDING, CHARGE-BACK PROCEDURES, AND PROCUREMENT

As with most state government agencies, financial issues play an important role. For information resource management, key financial trends have developed in expenditures, funding structures, charge-back procedures, and information technology procurement.

Networking, equipment upgrades and changes, and the adoption of new technologies top the list of trends in expenditures. For example, 22 respondents reported significant expenditures on networks in their states. And, while seven state reported an increase in expenditures to devote to these and other areas, expenditures for information resource management in nine states have been curtailed due to budget constraints.

States' information resource funding structures vary greatly, the survey found. However, a significant number of states reported two types of funding structures. Thirty states include the use of a revolving fund to some degree. Direct appropriations was part of the funding structure in 28 states.

The use of charge-back procedures is very common among state information resource agencies. Forty-seven states and the District of Columbia have some form of charge-back procedure for data processing. This trend is similar for telecommunications, where 43 states and the District of Columbia use a charge-back procedure.

One of the most important financial issues for information resource organizations is information technology procurement. Several trends in information technology stand out:

- Procurement for information technology is executed by the information resource organization up to a certain dollar amount. This dollar amount varies from state to state. Then, like most other procurement, the execution of information technology procurement reverts to a central purchasing department.

- Request for proposals and sole source are methods of procurement used by more than 95% of the states for data processing and telecommunications. Request for information, emergency procurement, and invitation for bids are also widely used. Request for proposals led the list as the most popular method of procurement, with 34 states and the District of Columbia citing RFPs as the primary method of procurement for information technology.

- Ninety percent of the states use state or term contracts for information technology procurement. The contracts are most often used for microcomputers and peripherals.

HUMAN RESOURCES

Information resource management also involves a number of human resource issues. Respondents were asked to indicate high priority personnel issues. The report also specifically looked at training as well as job classification and recruitment.

From a list of issues that included recruitment, workload, and classification, states rated training as having the highest priority with salary scoring second.

Regarding information resources and training a number of national patterns developed:

- Forty-six states provide at least some training for information resource functions through the information resource organization.
- Training is widely used for the information resource job classifications of applications programmer, microcomputer end user, and systems analyst. These job classifications are also most likely to have an established training curriculum.
- Every state that provides training through the information resource organization uses vendors. Instructor-led classes in both lab environment and lecture/workshops were two widely used delivery methods of information resource training.

Twenty states reported having information resource management titles either eliminated or created since January 1990.

State information resource organizations recruit employees most often from four-year universities and colleges, industry, and other state agencies. Some techniques that states use to recruit employees are job fairs, internships/traineeships, and geographic/quality of life appeal.

APPLICATIONS

Multiagency information systems and innovative systems applications are being used in a variety of ways to solve numerous challenges that states face. Multiagency information systems were most often cited as being developed in the areas of health, welfare, and human services, statewide accounting systems, and personnel. For example, a public assistance telephone number used in Hawaii can be accessed by the Department of Health, the Department of Human Services, and the Aloha United Way, providing quicker referrals for public assistance and better coordination between agencies.

States also reported a number of innovative system applications. In Kansas, for example, vital records have been automated using state-of-the-art computer technology in the Office of Vital Statistics. As a result, the office has seen improved customer service, improved effectiveness and efficiency, and reduced errors. Other systems reported include Maine's Criminal Justice Information System, New York's Alternative Food Stamp Issuance Program, and Washington's Department of Licensing Imaging Retrieval System.

INFORMATION RESOURCE PLANNING AND INITIATIVES

Legislation, strategic planning, and initiatives at the federal level will have an impact on state information resource management, survey respondents reported. Nineteen states reported recent legislation that makes information resources more effective, usually by calling for greater centralization of products and services. For instance, Code of Virginia 2.1-563.28 "established the Council on Information Management for the purpose of promoting the coordinated planning, practical acquisition, effective development, and efficient use of information technology resources serving the needs of agencies...." Eighteen states also reported forthcoming legislation that would make information resources more effective. Again, the main reason for improved effectiveness was consolidation or centralization. One example is Montana who reported that forthcoming legislation may centralize network management.

Strategic planning also is gaining importance in state information resource management, with 35 states reporting having a strategic planning process. Of those states, 18 reported that the information resource organization initiates the planning process. In the rest of the states, legislatures, governors, and other executive branch agencies or departments start the strategic planning process. Strategic planning for information resources affects different areas of state government too. Planning affects all state agencies in 61% of the states. The remaining states have varying degrees of limitations. The effects of strategic planning are usually limited to specific branches and agencies.

Twenty-two states suggested information technology initiatives that they felt should be addressed at the national level. National standards for information technology and applications were most often cited as possible initiatives. Funding and revisions to the Office of Management and Budget's Circular Number A-130 also were suggested as issues for national level discussion.

ISSUES IN INFORMATION RESOURCE MANAGEMENT

In managing state information resources, a number of trends have developed. In systems technologies, more and more states report the move to microcomputers, leading to an emphasis on improved communication capabilities. For information technologies, states see imaging, database management, and geographical information systems as important areas of growth. However, not all trends were positive. Several states reported budget constraints were hindering the use of information technology, mirroring California's response that "the availability of budget is outstripped by demand."

States were also asked to rate by priority for the next fiscal year several information resource management issues. Better service to the public, strategic planning, and more effective use of information technology were the three that averaged the highest priority nationally. Improved cooperative projects with industry and better information resource management coordination with local governments averaged the lowest priority.

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Chapter 1
ORGANIZATION

RESPONSIBILITY FOR COMPUTER SERVICES

The first goal in viewing the organization of information resource management was to identify the individual responsible for statewide computer services. Forty-seven states and the District of Columbia listed an individual as being chiefly responsible for computer services, and these states are listed in Table 1.1. These individuals were broken down into appointed positions and career positions. Twenty-eight states (or 55% of responses) appoint the person responsible for computer services. On the other hand, 20 responses or 39% indicated that the chief computer services position is a career post. Each individual is listed in a roster at the end of this chapter.

Three states - **California, New York,** and **Michigan** - could not list any single individual responsible for statewide computer services. All three noted that they were decentralized and had no one person or organization responsible for computer services statewide. These three exceptions are significant in that **California, New York**, and **Michigan** all have large populations and consequently large state governments.

CENTRAL INFORMATION RESOURCE POLICY DEPARTMENT

Central Policy Agency

Forty-four states and the District of Columbia or 88% reported that they have a central agency responsible for information resource policy formulation (see Table 1.2).

Three divisions can be made to illustrate where each centralized department can be found (See Table 1.3). They are:

- Cabinet level
- Independent agency
- Department level

Nine respondents have cabinet level status:

- Alaska
- Arkansas
- Florida
- Georgia
- Indiana
- Maryland
- Nevada
- North Carolina
- West Virginia

Six respondents have independent level status:

- Kentucky
- Massachusetts
- Mississippi
- Texas
- Virginia
- Washington

Thirty respondents have below cabinet level status. The department breakdown is:

• Department of Administration or General Services	19
• Department of Finance	4
• Department of Budget	4
• Other	3

The level that each centralized department enjoys determines, in part, its scope and responsibility.

For example, **Kentucky** has an independent agency responsible for information technology policy composed of 17 members who are appointed by the governor. The Kentucky Information Systems Commission is an advisory group whose responsibility is the formulation and coordination of long-range strategic IRM planning. Statute requires participation by all agencies, constitutional offices, and higher education.

Year Central Policy Agencies Were Established

Most of the 45 central policy agencies are less than 20 years old. Table 1.4 is a timeline showing when these policy organizations were created. The four-year period from 1969 to 1972 was the first active period in the creation of central policy units. From 1981 through the end of the decade, there was another larger movement to create central information resource policy organizations.

Meeting Frequency

About half of the information resource policy bodies meet on a regular basis ranging from monthly to semi-annually. Some meet on a continual basis, others meet as needed.

Function

Twenty-one states and the District of Columbia (44%) reported that their policy bodies work as regulatory agencies. In 13 states or 25% organizations act as advisory bodies only. In the remaining 10 states (20%), they function in both regulatory and advisory roles.

Source of Authority

Of the forty-five states who have a centralized information resource department responsible for information technology *policy* formulation, 32 respondents (71%) receive their authority from statutes. Seven respondents (16%) receive their authority from executive order. Only one state's central *policy* department, **Alabama,** receives their authority exclusively from administrative code.

There are, however, five states who receive their authority from more than one source. These states are: **California, Kentucky, Maryland, Oregon, and Pennsylvania. Pennsylvania's** central *policy* department receives its authority to operate from a unique combination of executive order and management directive.

For citation and further description of statues, see Table 1.5.

Policy vis a vis Operations

Twenty-five states combined the functions of information resource policy with the functions of information resouce operations.

Publications of Central Policy Departments

Of the 45 respondents who report having a centralized policy department responsible for information resources, 30 listed names of publications that it produces (see Table 1.6). The publications fell into seven categories:

- Strategic plans
- Annual plans
- Newsletters
- Policy Manuals
- Standards
- Procurement
- Miscellaneous

A total of 67 publications were reported. The most common type of publication listed was an annual report or plan. Eighteen publications reported were annual plans.

The second most common publication reported was a strategic plan. Together, both the annual plans and the strategic plans total 45 percent of all publications reported. The importance of planning, both yearly and long term, is evident.

The third most common type of publication was policy manuals with nine reported. Fourth place is a tie between newsletters and procurement publications. Both reported seven times each. The publications that dealt with procurement make 11 percent of the total reported, but only **Maryland, Mississippi, and New Mexico** reported. **Mississippi** is responsible for one of the publications with the other six split between **Maryland** and **New Mexico** equally.

The least common type of publication reported dealt with standards. There were four that reported.

The miscellaneous category contains publications such as an operations manual, cost effectiveness study, and information resources architecture.

STATE INFORMATION RESOURCE OPERATIONS

Central Information Resource Operating Agency

Fourteen states indicated that they had a separate central operating agency. Added to the 25 states where policy and operating functions are combined, the total number of states that have operations centralized is 39 (see Table 1.7). The remaining 11 states and the **District of Columbia** did not report having a central agency for information resource operations.

Source of Authority for Separate Centralized Operating Agency Responsible for Information Systems

Twenty-five respondents (49%) indicated that they had separate centralized *operating* agencies responsible for information systems. Twenty respondents (80%) indicated that their agency received its authority from statutes. Three respondents (12%) received authority from administrative code. One state's central *operating* agency, **New Jersey**, receives its authority from executive order. **Massachusetts** receives its authority from another source, the secretariat for Administration and Finance.

For citations and further description of the statutes, see Table 1.8.

Responsibility for Telecommunications

In 27 states the responsibility for telecommunications falls under the central operating agency. Most of these agencies have gained telecommunications responsibility since 1984. In addition, the **District of Columbia's** Information Resource Management Agency (IRMA) is responsible for telecommunications operations although it is not responsible for data processing operations. However, for data processing IRMA is the central policy body. Table 1.7 shows each state's response.

Less Formal User Groups

Less formal user groups are common in many state governments but usually are not a part of an official organization. Thirty-one states reported having less formal user groups (see Table 1.7).

DATA CENTERS

State data centers with budgets in excess of $5 million per year

All states but **Vermont** reported having at least one data center with a budget in excess of $5 million per year. **Florida** has the most with 18. Second highest reported is **Michigan**, which has 14. The most common data center in excess of $5 million per year is the data management centers in each state. In all, there were 37 data management divisions that were reported, but some states have more than one. For example, **Alaska** has a data center in Juneau and one in Anchorage.

Major data centers are reported at universities (31 sites) and transportation departments (20 sites). Many departments also hold large data centers such as public safety, revenue, human resources, commerce, lottery, employment, and judicial.

For a complete listing of state by state data centers, please see Table 1.13.

REORGANIZATION

Since January 1989, a large number of states have reorganized their agencies dealing with information resource management (see Table 1.9). Twenty-one states have reorganized information resource management functions. Whenever reorganization occurs important questions arise. Where did the reorganization originate? What were its effects? And, what were the primary reasons?

Type of Reorganization

Of the 21 states experiencing reorganization, 15 states responded that their information resource management agency underwent an *internal* reorganization. Four states experienced reorganization as the result of a larger or external reorganization. **Wisconsin** is currently undergoing an internal and external reorganization with the final outcome to be determined by the state legislature sometime in the summer of 1991. **Nevada** is currently reviewing how it handles information resource management.

Effects

The effects of reorganization can mean that an agency's authority may increase, decrease, or stay the same. Nine states responded that their agency saw an increase in authority as a result of reorganization. Likewise, nine states reported that their IRM agency's authority remained the same. Only two states - **Florida** and **Nebraska** - experienced a decrease in authority. **Wisconsin** expects to have an increase in authority after reorganization is complete, and **Nevada** is unable to determine yet any effects of reorganization.

Reasons

What were the major reasons for reorganization? Respondents were asked to check any of the following reasons:

- Cost Containment
- Better Coordination of Policy
- Increase Efficiency/Effectiveness
- Increase Accountability
- Result of Legislative Study
- Part of Overall Government Restructuring Plan

Respondents were also asked to include others not specified.

Overwhelmingly, the reason cited the most was to increase efficiency and effectiveness. Eighteen states included efficiency as a reason for reorganization. The second highest reason cited by 14 states was better coordination of policy. Cost containment and increased accountability were both cited by 11 or just over half of the states as reasons for reorganization. Four states experienced reorganization in part as a result of a legislative study. **West Virginia** was the only state reorganized as a part of an overall government restructuring plan.

A few states gave additional reasons for restructuring. **Montana** cited an effort to improve service. In **Pennsylvania** information resource management was moved under a chief information officer. **Hawaii** integrated telecommunications and information systems. **Indiana** reorganized in order to balance staff. The sole reason **Florida** cited for reorganizing was to become consistent with the management of the state university system.

INFORMATION RESOURCE FUNCTIONS

Table 1.10 lists IRM functions by state. It specifically refers to setting policy and operations for those functions. The survey asked respondents to "Check the following functions for which your state's information resource organization is responsible." That a state has "marked" a particular function can indicate two things. First, the primary agency for information resources is responsible for that function. The other is that the respondent's agency is responsible for that function. While often these two are the same, occasionally they were different. For example, Virginia has a Council on Information Management (CIM) and a Department of Information Technology (DIT). CIM is responsible for the policy area of the functions, and DIT is responsible for operations. Although Virginia's respondent works with DIT, he noted which functions were the responsibility of DIT and which were the responsibilities of CIM. However, since the question did not ask, most states did not indicate specifically which organization(s) were responsible for these functions in either policy or operations. Where a function is marked, the tables are best used in reference to those listed in the roster that follows their chapter.

CENTRALIZATION VS. DECENTRALIZATION

Respondents were asked to indicate the *level of centralization* in their state of 11 various IRM functions for both policy and operations. Table 1.11 lists by state the level of centralization of each function. Functions are ranked from one to four where one is very centralized and four is very decentralized.

Overall, more states are centralized than decentralized especially concerning policy. For operations, the states fall closer to being more evenly split but still are slightly more centralized.

The States Overall

Each state's point values were then averaged to give an overall indication of the state's level of centralization for IRM functions for both policy and operations. A ranking of states from most centralized to most decentralized is continued in Table 1.12.

FUNCTIONS

Just as some states are more centralized than others, some *functions* are more centralized than others. Each function's point value on a scale from one to four was averaged to give a national value for each function. Again, the functions are ranked below from most centralized to most decentralized. (See Table 1.11 for complete ranking of functions.)

Functions - Policy

	Most Centralized
Hardware Procurement/Review	1.5
Telecommunications	1.6
Long-range policy/planning	1.7
Strategic Direction	1.8
Information Technology Architecture	2.1
Data Center Operation	2.2
Technical Assessments	2.3
Data Processing Budgeting	2.3
Database Management	2.4
Training	2.4
System Development	2.7
	Most Decentralized

Functions - Operations

	Most Centralized
Telecommunications	1.8
Hardware Procurement/Review	1.9
Data Center Operations	2.2
Information Technology Architecture	2.3
Strategic Direction	2.3
Database Management	2.5
Long-range Policy/Planning	2.6
Training	2.6
Data Processing Budget	2.7
Technical Assessment	2.7
Systems Development	3.1
	Most Decentralized

TABLE 1.1
Status of Position Responsible for Statewide Computer Services

	Appointed	Career
ALABAMA	-	xxx
ALASKA	xxx	
ARIZONA	-	xxx
ARKANSAS	xxx	-
CALIFORNIA	not applicable	
COLORADO	-	xxx
CONNECTICUT	xxx	-
DELAWARE	xxx	-
FLORIDA	xxx	-
GEORGIA	xxx	-
HAWAII	-	xxx
IDAHO	xxx	-
ILLINOIS	-	xxx
INDIANA	xxx	-
IOWA	-	xxx
KANSAS	xxx	-
KENTUCKY	xxx	-
LOUISIANA	-	xxx
MAINE	xxx	-
MARYLAND	xxx	-
MASSACHUSETTS	-	xxx
MICHIGAN	not applicable	
MINNESOTA	xxx	-
MISSISSIPPI	xxx	-
MISSOURI	xxx	-
MONTANA	-	xxx
NEBRASKA	xxx	-
NEVADA	xxx	-
NEW HAMPSHIRE	-	xxx
NEW JERSEY	xxx	-
NEW MEXICO	xxx	-
NEW YORK	not applicable	
NORTH CAROLINA	-	xxx
NORTH DAKOTA	-	xxx
OHIO	xxx	-
OKLAHOMA	-	xxx
OREGON	xxx	-
PENNSYLVANIA	xxx	-
RHODE ISLAND	-	xxx
SOUTH CAROLINA	-	xxx
SOUTH DAKOTA	xxx	-
TENNESSEE	-	xxx
TEXAS	-	xxx
UTAH	xxx	-
VERMONT	-	xxx
VIRGINIA	xxx	-
WASHINGTON	xxx	-
WEST VIRGINIA	xxx	-
WISCONSIN	-	xxx
WYOMING	xxx	-
DISTRICT OF COLUMBIA	-	xxx

TABLE 1.2
History, Role, and Function of State Information Policy Organizations

		If Yes					
	Has a Central Policy Department	Cabinet Level	Year Established	Meeting Frequency	Function	Source	Combined With Operations
ALABAMA	yes	no	1989	As called	advisory	administrative code	yes
ALASKA	yes	yes	1987	4 per year	regulatory	statute	no
ARIZONA	yes	no	1982	-	regulatory	statute	yes
ARKANSAS	yes	yes	1979	not applic.	reg./adv.	statute	yes
CALIFORNIA	yes	no	1970	4 per year	regulatory	statute, admin. code, exec. order	no
COLORADO	yes	no	1987	12 per year	regulatory	statute	no
CONNECTICUT	yes	no	1989	continuous	regulatory	statute	no
DELAWARE	yes	no	1969	2 per year	regulatory	statute	yes
FLORIDA	yes	yes	1983	2 per month	advisory	statute	no
GEORGIA	yes	yes	1970	12 per year	regulatory	executive order	no
HAWAII	no	-	-	-	-	-	-
IDAHO	yes	no	1987	6 per year	advisory	executive order	no
ILLINOIS	yes	no	1966	-	regulatory	statute	yes
INDIANA	yes	yes	1977	12 per year	regulatory	statute	no
IOWA	yes	no	1985	-	advisory	statute	yes
KANSAS	yes	no	1984	not applic.	advisory	statute	yes
KENTUCKY	yes	indep.	1984	4 per year	advisory	statute, administrative code	no
LOUISIANA	no	-	-	-	-	-	no
MAINE	yes	no	1986	12 per year	regulatory	statute	yes
MARYLAND	yes	yes	1969	as required	reg./adv.	statute, executive order	no
MASSACHUSETTS	yes	indep.	1972	4 per year	advisory	executive order	no
MICHIGAN	yes	no	1971	-	reg./adv.	statute	no
MINNESOTA	yes	no	1987	-	regulatory	statute	yes
MISSISSIPPI	yes	indep.	1970	12 per year	regulatory	statute	yes
MISSOURI	yes	no	1984	not applic.	advisory	statute	yes
MONTANA	yes	no	1984	-	regulatory	statute	yes
NEBRASKA	yes	no	1965	-	reg./adv.	statute	yes
NEVADA	yes	yes	1981	4 per year	advisory	statute	yes
NEW HAMPSHIRE	yes	no	1968	-	reg./adv.	statute	no
NEW JERSEY	yes	no	1984	not applic.	reg./adv.	executive order	yes
NEW MEXICO	yes	no	1976	12 per year	regulatory	statute	no
NEW YORK	no	-	-	-	-	-	-
NORTH CAROLINA	yes	yes	1983	4 per year*	regulatory	statute	yes
NORTH DAKOTA	yes	no	1967	-	regulatory	statute	yes
OHIO	yes	no	1988	not applic.	regulatory	executive order	some
OKLAHOMA	yes	no	1984	-	regulatory	statute	yes
OREGON	yes	no	1985	-	reg./adv.	statute, administrative code	yes
PENNSYLVANIA	yes	no	1987	continuous	advisory	executive order, management directive	yes
RHODE ISLAND	no	-	-	-	-	-	-
SOUTH CAROLINA	yes	no	1987	12 per year	reg./adv.	statute	no
SOUTH DAKOTA	no	-	-	-	-	-	-
TENNESSEE	yes	no	1972	-	regulatory	executive order	yes
TEXAS	yes	indep.	1989	4+ per year	regulatory	statute	yes
UTAH	yes	no	1985	12 per year	reg./adv.	statute	no
VERMONT	no	-	-	-	-	-	-
VIRGINIA	yes	indep.	1988	6 per year	regulatory	statute	no
WASHINGTON	yes	indep.	1987	6 per year	reg./adv.	statute	yes
WEST VIRGINIA	yes	yes	1971	as needed	advisory	executive order	yes
WISCONSIN	yes	no	1991**	4 per year	advisory	statute	no
WYOMING	yes	no	1986	4 per year	advisory	statute	no
D.C.	yes	no	1985	12 per year	regulatory	statute	no

**12 per year for executive committee*

*** pending legislation*

TABLE 1.3
Administrative Position of Central Information Policy Organization

			Department			
	Cabinet Level	Independent	Administration/ General Services	Finance	Budget	Other
ALABAMA				XXX		
ALASKA	XXX					
ARIZONA			XXX			
ARKANSAS	XXX					
CALIFORNIA				XXX		
COLORADO			XXX			
CONNECTICUT						*
DELAWARE					XXX	
FLORIDA	XXX					
GEORGIA	XXX					
IDAHO			XXX			
ILLINOIS			XXX			
INDIANA	XXX					
IOWA			XXX			
KANSAS			XXX			
KENTUCKY		XXX				
MAINE			XXX			
MARYLAND	XXX					
MASSACHUSETTS		XXX				
MICHIGAN					XXX	
MINNESOTA			XXX			
MISSISSIPPI		XXX				
MISSOURI			XXX			
MONTANA			XXX			
NEBRASKA			XXX			
NEVADA	XXX					
NEW HAMPSHIRE			XXX			
NEW JERSEY						**
NEW MEXICO			XXX			
NORTH CAROLINA	XXX					
NORTH DAKOTA					XXX	
OHIO			XXX			
OKLAHOMA				XXX		
OREGON						***
PENNSYLVANIA			XXX			
SOUTH CAROLINA			XXX			
TENNESSEE				XXX		
TEXAS		XXX				
UTAH					XXX	
VIRGINIA		XXX				
WASHINGTON		XXX				
WEST VIRGINIA	XXX					
WISCONSIN			XXX			
WYOMING			XXX			
D.C.			XXX			

** CT - Office of Policy and Management*
*** NJ - Department of Treasury*
****OR - Executive Department*

TABLE 1.4
Timeline of When States Formed the Central Information Policy Organization

Year	States	
1991	1	Wisconsin (pending legislation)
1990	-	
1989	3	Alabama, Connecticut, Texas
1988	2	Ohio, Virginia
1987	7	Alaska, Colorado, Idaho, Minnesota, Pennsylvania, South Carolina, Washington
1986	2	Maine, Wyoming
1985	4	Iowa, Oregon, Utah, District of Columbia
1984	6	Kansas, Kentucky, Missouri, Montana, New Jersey, Oklahoma
1983	2	Florida, North Carolina
1982	1	Arizona
1981	1	Nevada
1980	-	
1979	1	Arkansas
1978	-	
1977	1	Indiana
1976	1	New Mexico
1975	-	
1974	-	
1973	-	
1972	2	Massachusetts, Tennessee
1971	2	Michigan, West Virginia
1970	3	California, Georgia, Mississippi
1969	2	Delaware, Maryland
1968	1	New Hampshire
1967	1	North Dakota
1966	1	Illinois
1965	1	Nebraska
	45	states

TABLE 1.5
Source, Citation, and Description for Central Information Policy Organization

	Authority	Citation	Description
Alabama	Administrative Code	-	-
Alaska	Statute	AS 44.19.502-519 - 44.26300-330	
Arizona	Statute	A.R.S. 41-712-	
Arkansas	Statute	Act 884 of 1977 as amended-	
California	Statute, Administrative Code, Executive Order	Section 4800 -	
Colorado	Statute	C.R.S. 24-30-1701 to 1705-	
Connecticut	Statute	Connecticut General Statutes PA 89-257	
Delaware	Statute	Delaware Code, Title 29, - Section 6357	
Florida	Statute	Chapter 282, Florida Statutes-	
Georgia	Executive Order	-	-
Hawaii	-	-	-
Idaho	Executive Order	-	-
Illinois	Statute	Illinois Revised Statues, Chapter 127, Para. 35.7	-
Indiana	Statute	I.C. 4-23-16, Appendix 1-1-	
Iowa	Statute	Chapter 18 Iowa Code-	
Kansas	Statute	K.S.A. 75-4706-	
Kentucky	Statute	KRS 61.945	
	Administrative Code	1 KAR 14:010	Commission is responsible for formulation and coordination of long-range strategic IRM planning. Statute requires participation by all agencies, constitutional offices and higher education.
Louisiana	-	--	
Maine	Statute	5 MRSA, section 1885 for - Office of Information Services 5 MRSA, section 1892 for Information Services Policy Board	
Maryland	Statute, Executive Order	State Code 3-401, 3-406 of State Finance and Procurement Article of the Annotated Code of Maryland	Statute requires that the Secretary of Budget & Fiscal Planning: 1) review and approve information proceeding (IP) plans; 2) study IP functions; 3) reviews and approve IP changes; 4) oversee IP procurement; and 5) administer depreciation of selected IP equipment.
Massachusetts	Executive Order	--	
Michigan	Statute	P.A. 431 of 1984 as amended-	
Minnesota	Statute	16B.41-	
Mississippi	Statute	25-53-1 and 31-7-203-	
Missouri	Statute	Chapter 37, section 37.005	Coordinates and controls the acquisition of data processing hardware, software, and services in the executive branch.
Montana	Statute	2-17-501 MCA-	
Nebraska	Statute	--	
Nevada	Statute	NRS 242-	
New Hampshire	Statute	--	
New Jersey	Executive Order	No. 84-	
New Mexico	Statute	15-1-1 to 15-1-13 NMSA 1978-	

	Authority	Citation	Description
New York	-	--	
North Carolina	Statute	NC G.S.143B-426.21	Creation of the Information Technology Commission to 1) Approve/disapprove proposals by SIPS, 2) Obtain information relevant to decisions, and 3) Develop a comprehensive plan for the acquisition, use, and management of IRM resources.
North Dakota	Statute	--	
Ohio	Executive Order	88-40	Office of Policy & Planning created by Executive Order 88-40 superintending authority for computing & communications by Ohio Revised Code sections 125.021 and 126.06 and Ohio Administrative Code 123:3-3-01 and 123:3-3-02
Oklahoma	Statute	Senate Bill 401-	
Oregon	Statute, Administrative Code	Oregon Revised Statutes, Chapter 291	Assigns responsibility to one group to coordinate acquisition, installation, and use by state agencies of information systems technology.
Pennsylvania	Executive Order--Management Directive		
Rhode Island	-	--	
South Carolina	Statute	--	
South Dakota	-	--	
Tennessee	Executive Order	--	
Texas	Statute	Texas Administrative Code 201	Review national and international standards and adopt for Texas as appropriate; establish statewide goals and policies; assist Legislature and make recommendations; review and approve agency plans and procurement; provide services under inter-agency contract.
Utah	Statute	UT Code 63-1-53	Establishes the Office of State Information Technology Coordinator. Committee of state agencies establish policy under direction of coordinator.
Vermont	-	--	
Virginia	Statute	Chapter 35.2, Article 7,-section 2.1-563.28, Code of Virginia	
Washington	Statute	RCW 43.105-	
West Virginia	Executive Order	--	
Wisconsin	Statute	--	
Wyoming	Statute	W.S. 9-2-1018	
District of Columbia	Statute	DC ADP Act of 1984	The Act established detailed IRM responsibilities including strategic planning and acquisition review.

TABLE 1.6
Publications of Central Information Policy Organizations

	Publications
Alaska	Strategic Plan for Information Services
	State of Alaska Statewide Information Management Strategy
Arizona	Annual Automation Report
California	Publishes Policy in State Administration Manual
Colorado	State Strategic Information Management Plan
	Annual Planning Guide
	Information Systems Policies
Connecticut	Connecticut Information & Technology Strategic Planning Document
	Connecticut Telecommunications Plan
Florida	Annual Report
	State Strategic Plan
	Security Standards
	Instructions for the Agency Strategic Plan
	Instructions for the Annual Performance Report
Indiana	Information Processing Policy and Management Procedures
Iowa	Annual Planning Document
Kansas	Information Management Plan
	Policy and Procedure Memorandum
	Standards
	Guidelines and Bulletins
Kentucky	Biennial Statewide Plan
	Information Resources Architecture
Maine	Office of Information Services newsletter
	Office of Information Services Systems Architecture Policy and pursuant rules
Maryland	Procedure For The Procurement of Information Processing Resources
	Guidelines For Preparing State Requests For Proposals For Information Processing Hardware, Software, and Services
	Guidelines For Conducting Information Processing Procurement
Massachusetts	As needed
Minnesota	Newsletter: Inside Information. Information System Life Cycle Methodology. Charting Your Course- Strategic Information Planning for the 90's. Information Systems Funding Recommendations
Mississippi	State IS Master Plan
	Annual Report
	Policy Manual
	Services and Supported Products
	FYI Newsletter
	Procurement Policies and Procedures
Missouri	Annual Data Processing and Telecommunications Report and Plan
Montana	Montana Operations Manual
Nebraska	Monthly Newsletter
Nevada	Annual Plan
	Standards Manual
New Mexico	Information Systems Master Plan
	Information Systems Planning Guide
	Procurement Regulations
	Procurement Policies & Procedures
	RFP Development Guide
North Carolina	Annual Information Processing Plan and Report
	IRM Policies, Procedures and Guidelines
	IRM Strategic Direction
Ohio	Computer Utilization Report
	DAS Cost-Effectiveness Study
	Direction for the Future
	Newsletters: Service Update (for data center users), Dimensions (for division employees)
Oklahoma	Annual Report
	Strategic Plan
	Disaster Recovery

	Publications
Oregon	Numerous publications available
Pennsylvania	Annual Report
	Strategic Directions Report
Tennessee	Quarterly Newsletter
	Annual Report
	Long Range Plan
Texas	State Strategic Plan for Information Resources
	Annual Report
	Periodic Newsletter
Utah	Annual Approved Plans for State Agency Data Processing and Telecommunications Activities
Washington	Information Technology Policy Manual
District of Columbia	District IRM Policies & Standards Manual
	Ergonomics Policy

TABLE 1.7
Roles and Functions of the State Information Resource Organization

	Combined With Policy Organization	Separate Central Operating Agency	Source	Does Telecommunications	Year Gained Telecommunications	Less Formal User Group
ALABAMA	yes	no	admininstrative code	yes	1990	-
ALASKA	no	yes	statute	yes	1983	yes
ARIZONA	yes	no	admin. code	yes	1982	-
ARKANSAS	yes	no	statute	yes	1977	no
CALIFORNIA	no	no	-	no	-	yes
COLORADO	no	no	-	-	-	yes
CONNECTICUT	no	yes	statute	no	-	yes
DELAWARE	yes	no	statute	yes	1985	no
FLORIDA	no	yes	statute	no	-	yes
GEORGIA	no	yes	statute	no	-	no
HAWAII	-	yes	admin. code	yes	1987	no
IDAHO	no	no	-	no	-	yes
ILLINOIS	yes	no	statute	yes	pre-1980	yes
INDIANA	no	no	-	-	-	yes
IOWA	yes	no	-	no	-	yes
KANSAS	yes	no	-	yes	1985	no
KENTUCKY	no	yes	statute	no	-	-
LOUISIANA	no	no	-	-	-	yes
MAINE	yes	no	-	yes	1987	yes
MARYLAND	no	no	-	-	-	yes
MASSACHUSETTS	no	yes	other**	mix	1991	no
MICHIGAN	no	no	-	no	-	-
MINNESOTA	yes	no	-	-	-	yes
MISSISSIPPI	yes	no	-	yes	1984	yes
MISSOURI	yes	no	-	yes	1984	-
MONTANA	yes	no	statute	yes	1983	yes
NEBRASKA	yes	no	-	-	-	-
NEVADA	yes	no	-	no	-	no
NEW HAMPSHIRE	no	no	-	-	-	-
NEW JERSEY	yes	no	executive order	yes	1984	-
NEW MEXICO	no	yes	statute	yes	1978	yes
NEW YORK	-	no	-	-	-	yes
NORTH CAROLINA	yes	no	statute	yes	1989	yes
NORTH DAKOTA	yes	no	statute	yes	1986	no
OHIO	some	no	-	yes	1985	yes
OKLAHOMA	yes	no	statute	yes	1985	-
OREGON	yes	no	-	no	-	yes
PENNSYLVANIA	yes	no	-	no	-	yes
RHODE ISLAND	-	yes	statute	no	-	no
SOUTH CAROLINA	no	yes	statute	yes	1985	yes
SOUTH DAKOTA	-	yes	statute	yes	1985	yes
TENNESSEE	yes	no	-	yes	1990	yes
TEXAS	yes	no	-	yes	1989	yes
UTAH	no	no	-	yes	1990	yes
VERMONT	-	no	-	no	-	no
VIRGINIA	no	yes	statute	yes	1985	yes
WASHINGTON	yes	no	-	yes	1987	yes
WEST VIRGINIA	yes	no	statute	yes	1990	yes
WISCONSIN	no	yes***	statute***	no	-	no
WYOMING	no	yes	statute	no	-	yes
D.C.	no	no	-	yes	-	yes

**This column is the same column in Table 1.2 titled "Combined with Operations"*
***other - in secretariat for Office of Administration and Finance*
****pending legislation*

Table 1.8
Source of Authority, Citation, and Description of Centralized Operating Agency Responsible for Information Systems

	Authority	Citation	Description
Alabama	Administrative Code	-	-
Alaska	Statute	AS 44.21.150-160	-
Arizona	Administrative Code	Authorized by Department of Administration	-
Arkansas	Statute	Act 884 of 1977 as amended	-
Connecticut	Statute	Connecticut General Statutes PA 89-257	-
Delaware	Statute	Delaware Code, Title 29, Section 6351	-
Florida	Statute	Section 20.22, Florida Statutes	-
Georgia	Statute	-	-
Hawaii	Administrative Code	-	Charged Department of Budget and Finance with responsibility to exercise functional and operational control over all DP equipment and personnel in the state of Hawaii. Information & Communications Services division assigned day-to-day administration of the policy.
Illinois	Statute	Ilinois Revised Statues, Chapter 127, Para. 35.7	-
Kentucky	Statute	KRS 42.209	Department of Information Systems is responsible for all aspects of information systems management in the executive branch. Responsibility includes policies and procedures to support compatibility, transportability and connectivity in line with Information Resources Architecture.
Massachusetts	Other	-	Office of Management Information Systems is in secretariat for Administration and Finance
Montana	Statute	2-17-501 MCA	-
New Jersey	Executive Order	No. 84	-
New Mexico	Statute	15-1-1 to 15-1-13 NMSA 1978	-
North Carolina	Statute	NC G.S. 143B-426.40	To operate information processing centers that serve two or more agencies, and to adopt plans, policies, procedures, rules for the management of information processing resources.
North Dakota	Statute	54-44.2 NDCC	-
Oklahoma	Statute	Senate Bill 401 and Senate 413	-
Rhode Island	Statute	R.I. General Laws 42-11.2	-
South Carolina	Statute	-	-
South Dakota	Statute	SDCL 1.14-12.2	-
Virginia	Statute	Chapter 35.2, Article 2, section 2.1-563.14, Code of Virginia	-
West Virginia	Statute	State Code Section 5A-7-1 to 11	Creates Information Services & Communications Division, Director's position, defines powers, responsibilities, and funding.
Wisconsin	Statute*	legislation is not yet passed	-
Wyoming	Statute	W.S. 9-2-1018	-

** denotes legislation is pending*

Table 1.9

Information Resource Management Reorganization - Types, Effect, and Reasons

Reflects changes reported since January 1989

			Reasons for Reorganization					
	Type of Reorganization	Effect on Authority	Cost Containment	Better Coordination of Policy	Increase Efficiency/ Effectiveness	Increase Accountability	Result of Legislative Study	Overall
ALASKA	internal	same	-	xxx	xxx	-	-	-
ARIZONA	internal	same	xxx	xxx	xxx	-	-	-
FLORIDA	external	decrease	-	-	-	-	-	-
HAWAII	internal	increase	xxx	xxx	xxx	xxx	-	-
INDIANA	internal	same	-	xxx	xxx	-	-	-
MAINE	internal	same	-	-	xxx	xxx	xxx	-
MARYLAND	internal	same	xxx	xxx	xxx	xxx	-	-
MASSACHUSETTS	external	increase	xxx	-	xxx	-	-	-
MONTANA	internal	increase	-	xxx	xxx	xxx	-	-
NEBRASKA	internal	decrease	-	xxx	-	-	-	-
NEVADA	under review	-	-	-	-	-	-	
NEW MEXICO	internal	same	-	-	xxx	xxx	-	-
NORTH CAROLINA	external	increase	-	xxx	xxx	xxx	xxx	-
PENNSYLVANIA	external	increase	xxx	xxx	xxx	xxx	-	-
TENNESSEE	internal	increase	xxx	xxx	xxx	-	-	-
TEXAS	internal	increase	-	xxx	xxx	-	xxx	-
UTAH	internal	same	xxx	xxx	xxx	xxx	-	-
VERMONT	internal	same	xxx	-	xxx	xxx	-	-
WASHINGTON	internal	same	xxx	-	xxx	xxx	-	-
WEST VIRGINIA	internal	increase	xxx	xxx	xxx	-	-	xxx
WISCONSIN	internal* external*	increase	xxx	xxx	xxx	xxx	xxx	-

** pending*

TABLE 1.10
• Policy •
Functions for Which the States' Information Resource Organizations are Responsible

	Long Range IRM Policy/Planning	Technical Assessments	Data Center Operations	System Development	Hardware Procurement/ Review	Data Processing Budgeting	Telecommunications	Database Management	Training	Information Technology Architecture	Strategic Direction
ALABAMA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
ALASKA	xxx	xxx	xxx	-	-	xxx	xxx	xxx	-	-	xxx
ARIZONA	xxx	-	-	-	xxx	-	-	-	-	-	xxx
ARKANSAS	-	xxx	xxx	xxx	xxx	-	xxx	-	-	xxx	-
CALIFORNIA	-	-	-	-	-	-	-	-	-	-	-
COLORADO	xxx	xxx	-	-	-	xxx	-	-	-	-	xxx
CONNECTICUT	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
DELAWARE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
FLORIDA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
GEORGIA	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
HAWAII	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
IDAHO	xxx	xxx	-	-	xxx	xxx	-	-	xxx	xxx	xxx
ILLINOIS	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
INDIANA*	DOPC	DOPC	DOPC	DOPC	DOPC	DOPC	DOPC	DOPC	DOPC	DOPC	DPC
IOWA	xxx	-	xxx	xxx	xxx	-	xxx	xxx	-	xxx	xxx
KANSAS	xxx	xxx	-	-	xxx	-	xxx	xxx	-	xxx	xxx
KENTUCKY**	KISC	-	DIS	DIS	KISC	KISC	KISC	KISC	KISC	KISC	KSC
LOUISIANA	-	-	-	-	xxx	-	xxx	-	-	-	-
MAINE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
MARYLAND	xxx	xxx	-	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
MASSACHUSETTS	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx	xxx
MICHIGAN	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
MINNESOTA***	IPO	IPO	-	-	IPO	IPO	-	-	-	IPO	IPO
MISSISSIPPI	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
MISSOURI	xxx	xxx	-	-	xxx	xxx	xxx	-	-	xxx	xxx
MONTANA	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	-	xxx	xxx
NEBRASKA	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
NEVADA	xxx	xxx	xxx	xxx	xxx	-	-	xxx	xxx	xxx	xxx
NEW HAMPSHIRE	-	xxx	xxx	xxx	xxx	-	-	xxx	-	xxx	xxx
NEW JERSEY	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NEW MEXICO****	-	ISC	ISC	ISC	ISC	-	ISC	ISC	-	ISC	ISC
NEW YORK	-	-	-	-	-	-	-	-	-	-	-
NORTH CAROLINA	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx	xxx
NORTH DAKOTA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
OHIO	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx	xxx
OKLAHOMA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
OREGON	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
PENNSYLVANIA	xxx	-	-	-	-	xx	xx	-	-	-	xxx
RHODE ISLAND	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
SOUTH CAROLINA	xxx	-	-	-	xxx	xxx	-	-	-	xxx	xxx
SOUTH DAKOTA	-	-	-	-	-	-	-	-	-	-	-
TENNESSEE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
TEXAS	xxx	xxx	-	-	xxx	xxx	xxx	xxx	-	xxx	xxx
UTAH	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
VERMONT	-	xxx	-	xxx	xxx	-	-	-	-	-	-
VIRGINIA*****	CIM	CIM	CIM	CIM	CIM	CIM	CIM	CIM	CIM	CIM	CIM
WASHINGTON	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx
WEST VIRGINIA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
WISCONSIN	xxx	xxx	-	-	xxx	-	xxx	-	-	xxx	xxx
WYOMING	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xx.
DISTRICT OF COLUMBIA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx

**Indiana - Data Processing Oversight Commission (DPOC)*

***Kentucky - Kentucky Information Systems Commission (KISC); Department of Information Systems (DIS)*

****Minnesota - Information Policy Office (IPO)*

*****New Mexico - Information Systems Council (ISC)*

******Virginia - Council on Information Management (CIM)*

Table 1.10
• Operations •
Functions for Which the States'Information Resource Organizations are Responsible

	Long Range IRM Policy/Planning	Technical Assessments	Data Center Operations	System Development	Hardware Procurement/ Review	Data Processing Budgeting	Telecommunications	Database Management	Training	Information Technology Architecture	Strategic Direction
ALABAMA	-	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
ALASKA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
ARIZONA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
ARKANSAS	xxx	-	xxx	xxx	-	xxx	xxx	xxx	xxx	-	xxx
CALIFORNIA	-	-	-	-	-	-	-	-	-	-	-
COLORADO	-	-	-	-	-	-	-	-	-	-	-
CONNECTICUT	-	-	xxx	xxx	-	-	-	xxx	xxx	-	-
DELAWARE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
FLORIDA	xxx	-	-	-	-	-	-	-	-	-	xxx
GEORGIA	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
HAWAII	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
IDAHO	-	-	-	-	-	-	-	-	-	-	-
ILLINOIS	-	-	xxx	-	-	-	xxx	xxx	xxx	-	-
INDIANA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
IOWA	-	-	xxx	xxx	xxx	xxx	xxx	xxx	-	-	-
KANSAS	-	-	xxx	-	xxx	xxx	xxx	xxx	-	-	-
KENTUCKY*	DIS	DIS	DIS	DIS	DIS	-	DIS	DIS	DIS	DIS	DIS
LOUISIANA	-	-	-	-	-	-	xxx	-	-	-	-
MAINE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
MARYLAND	-	-	-	-	-	-	-	-	-	-	-
MASSACHUSETTS	-	xxx	xxx	xxx	-	-	xxx	xxx	xxx	xxx	xxx
MICHIGAN	-	-	-	-	-	-	xxx	-	-	-	-
MINNESOTA**	-	-	ITG	-	-	ITG	ITG	ITG	ITG	-	-
MISSISSIPPI	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
MISSOURI	-	-	xxx	xxx	-	-	xxx	xxx	xxx	-	-
MONTANA	-	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NEBRASKA	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
NEVADA	-	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NEW HAMPSHIRE	-	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
NEW JERSEY	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NEW MEXICO	xxx	-	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NEW YORK	-	-	-	-	-	-	-	-	-	-	-
NORTH CAROLINA	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx	xxx
NORTH DAKOTA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
OHIO	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx	xxx
OKLAHOMA	-	-	xxx	xxx	-	xxx	xxx	xxx	xxx	xxx	-
OREGON	-	-	xxx	-	-	-	-	-	-	-	-
PENNSYLVANIA	-	-	-	-	-	-	-	-	-	-	-
RHODE ISLAND	-	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
SOUTH CAROLINA	-	xxx	xxx	xxx	-	-	xxx	xxx	xxx	-	-
SOUTH DAKOTA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
TENNESSEE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
TEXAS	-	-	xxx	xxx	-	-	-	-	xxx	-	-
UTAH	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
VERMONT	-	xxx	xxx	xxx	xxx	-	-	xxx	xxx	-	-
VIRGINIA***	DIT	DIT	DIT	DIT	DIT	DIT	DIT	DIT	DIT	DIT	DIT
WASHINGTON	xxx	xxx	xxx	xxx	xxx	-	xxx	-	xxx	-	-
WEST VIRGINIA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
WISCONSIN	-	xxx	xxx	-	-	xxx	-	xxx	-	-	-
WYOMING	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
DISTRICT OF COLUMBIA	-	-	xxx	-	xxx	-	xxx	-	-	-	-

**Kentucky - Department of Information Systems (DIS)*
***Minnesota - InterTechnology Group (ITG)*
****Virginia - Department of Information Technology (DIT)*

TABLE 1.11

• Policy •

Centralization of Information Resource Functions as Ranked by States

1=centralized to 4=decentralized

	Long Range IRM Policy/Planning	Technical Assessments	Data Center Operations	System Development	Hardware Procurement/ Review	Data Processing Budgeting	Telecommunications	Database Management	Training	Information Technology Architecture	Strategic Direction
ALABAMA	2	2	1	3	1	3	1	1	1	2	2
ALASKA	2	4	4	4	4	4	3	4	4	4	3
ARIZONA	2	4	4	4	2	4	3	4	4	3	2
ARKANSAS	4	1	4	4	1	3	1	4	4	1	3
CALIFORNIA	3	4	2	4	4	4	2	4	2	2	2
COLORADO	2	4	4	4	2	2	2	2	4	4	2
CONNECTICUT	1	2	1	1	1	1	4	1	1	1	1
DELAWARE	1	1	2	1	1	2	1	2	3	2	1
FLORIDA	3	3	4	4	1	1	1	4	2	4	2
GEORGIA	2	2	2	2	1	2	-	2	2	1	2
HAWAII	2	2	1	2	1	2	1	1	2	1	1
IDAHO	1	2	1	3	1	1	2	4	2	2	1
ILLINOIS	1	2	1	3	1	3	1	1	2	2	1
INDIANA	2	2	4	4	1	1	2	2	4	2	4
IOWA	2	3	1	3	1	1	2	1	4	2	2
KANSAS	1	2	1	4	1	4	1	2	4	3	2
KENTUCKY	1	3	2	1	2	2	1	1	2	1	1
LOUISIANA	4	4	4	4	2	3	1	4	3	4	4
MAINE	2	3	4	3	2	3	1	2	3	2	2
MARYLAND	2	3	4	4	2	2	2	4	2	2	2
MASSACHUSETTS	1	2	2	1	3	2	2	2	2	2	2
MICHIGAN	2	2	2	2	2	2	2	4	3	3	2
MINNESOTA	2	3	2	4	2	4	1	3	4	2	2
MISSISSIPPI	2	2	1	2	1	2	2	2	2	1	1
MISSOURI	3	3	2	4	1	4	1	4	2	3	2
MONTANA	2	1	1	4	1	1	1	1	1	2	2
NEBRASKA	2	2	1	2	2	1	-	1	1	1	2
NEVADA	2	2	1	3	2	2	4	3	2	2	2
NEW HAMPSHIRE	2	2	2	2	2	2	2	2	2	2	2
NEW JERSEY	2	1	1	2	1	2	1	2	2	2	2
NEW MEXICO	2	3	2	3	1	4	1	2	3	1	2
NEW YORK	2	4	4	4	2	2	2	4	3	4	3
NORTH CAROLINA	1	1	1	2	1	1	1	2	1	1	1
NORTH DAKOTA	1	1	2	2	2	3	1	1	2	2	2
OHIO	1	3	3	4	1	4	2	4	4	2	1
OKLAHOMA	1	2	4	4	1	4	1	4	2	4	1
OREGON	1	2	1	1	2	1	2	2	2	2	2
PENNSYLVANIA	1	2	2	2	2	2	1	3	3	3	1
RHODE ISLAND	1	1	1	1	1	1	1	1	1	1	1
SOUTH CAROLINA	3	2	4	3	2	3	3	4	3	2	1
SOUTH DAKOTA	4	2	2	4	1	2	2	2	2	2	2
TENNESSEE	1	1	1	1	1	1	1	1	1	1	1
TEXAS	3	3	3	3	2	2	3	4	3	4	2
UTAH	2	2	1	2	1	1	1	1	2	2	2
VERMONT	4	2	4	2	1	4	1	3	2	2	4
VIRGINIA	1	2	2	1	1	1	1	2	2	1	1
WASHINGTON	1	2	1	1	1	3	1	1	2	1	1
WEST VIRGINIA	2	2	2	2	2	2	2	2	2	2	2
WISCONSIN	1	2	2	2	1	1	2	2	1	2	1
WYOMING	2	1	1	1	1	1	1	1	1	1	2
D.C.	1	2	2	2	1	2	1	2	2	2	2

TABLE 1.11

• Operations •

Centralization of Information Resource Functions As Ranked by States

1=centralized to 4=decentralized.

	Long Range IRM Policy/Planning	Technical Assessments	Data Center Operations	System Development	Hardware Procurement/ Review	Data Processing Budgeting	Telecommunications	Database Management	Training	Information Technology Architecture	Strategic Direction
ALABAMA	2	2	3	3	2	3	1	1	2	1	1
ALASKA	2	2	1	4	1	2	1	2	2	2	3
ARIZONA	2	4	4	4	2	4	3	4	4	3	2
ARKANSAS	4	4	4	4	1	4	3	4	3	4	2
CALIFORNIA	3	4	2	4	4	4	2	4	2	2	2
COLORADO	4	4	4	4	4	3	2	2	4	4	4
CONNECTICUT	4	2	2	4	4	1	4	3	2	2	3
DELAWARE	1	2	2	1	1	2	2	4	4	2	1
FLORIDA	4	4	4	4	1	1	1	4	4	4	4
GEORGIA	1	1	1	2	1	2	-	1	2	1	1
HAWAII	2	2	1	2	2	2	1	1	2	1	2
IDAHO	1	3	4	4	1	2	4	3	2	2	1
ILLINOIS	3	2	1	3	1	2	1	1	2	2	1
INDIANA	3	3	4	4	1	2	2	3	4	4	4
IOWA	2	3	1	3	1	1	2	1	4	2	2
KANSAS	1	1	1	4	3	4	1	3	4	3	2
KENTUCKY	2	3	1	2	2	3	3	1	2	1	1
LOUISIANA	4	4	4	4	2	3	2	4	3	4	4
MAINE	3	3	1	2	2	1	1	2	2	1	1
MARYLAND	3	2	4	4	3	3	3	4	3	3	3
MASSACHUSETTS	2	4	-	2	1	3	2	2	3	2	3
MICHIGAN	3	4	4	4	2	2	2	4	4	4	2
MINNESOTA	2	2	1	4	1	3	1	1	1	1	1
MISSISSIPPI	3	2	3	3	2	3	2	2	2	1	1
MISSOURI	3	3	3	4	1	4	1	4	2	3	2
MONTANA	3	1	1	4	1	4	1	1	2	2	2
NEBRASKA	2	2	1	2	1	1	-	2	1	1	2
NEVADA	2	3	1	3	3	2	4	3	3	3	3
NEW HAMPSHIRE	2	2	2	2	2	2	2	2	2	2	2
NEW JERSEY	2	2	1	2	1	2	1	2	2	2	2
NEW MEXICO	2	4	2	4	2	4	1	3	3	2	2
NEW YORK	3	4	4	4	2	2	3	4	4	4	3
NORTH CAROLINA	3	3	2	3	3	4	2	3	1	2	2
NORTH DAKOTA	2	2	3	1	2	3	2	2	2	2	3
OHIO	2	3	2	3	1	2	2	3	2	2	2
OKLAHOMA	4	3	4	4	3	4	1	4	2	4	4
OREGON	3	3	1	4	1	3	3	4	3	2	4
PENNSYLVANIA	3	4	4	4	4	4	2	4	4	4	3
RHODE ISLAND	-	1	1	1	1	1	1	1	1	1	1
SOUTH CAROLINA	4	4	2	2	1	3	1	1	3	1	3
SOUTH DAKOTA	3	3	1	3	3	4	1	1	3	1	1
TENNESSEE	2	1	1	1	1	1	1	1	1	1	1
TEXAS	4	4	3	4	4	3	3	4	4	4	3
UTAH	2	1	1	2	1	1	1	1	3	2	2
VERMONT	4	2	4	2	1	4	1	3	2	2	4
VIRGINIA	4	4	3	4	3	4	2	3	4	3	4
WASHINGTON	1	2	2	3	4	2	4	2	2	1	1
WEST VIRGINIA	2	2	2	2	2	2	2	2	2	2	2
WISCONSIN	1	2	1	4	1	4	2	3	4	2	2
WYOMING	2	1	1	1	1	2	1	1	1	1	2
D.C.	3	4	4	4	2	4	1	4	4	4	3

TABLE 1.12
Level of IRM Centralization by State
(based on rank of IRM functions in Table 1.12)

Information Resource Policy

Rhode Island	1.0	***Most Centralized***
Tennessee	1.0	
North Carolina	1.2	
Wyoming	1.2	
Connecticut	1.3	
Virginia	1.4	
Washington	1.4	
Wisconsin	1.4	
Delaware	1.5	
Hawaii	1.5	
Kentucky	1.5	
Montana	1.5	
Nebraska	1.5	
New Jersey	1.5	
Utah	1.5	
Illinois	1.6	
Mississippi	1.6	
Oregon	1.6	
Alabama	1.7	
District of Columbia	1.7	
North Dakota	1.7	
Georgia	1.8	
Idaho	1.8	
Massachusetts	1.9	
Iowa	2.0	
New Hampshire	2.0	
Pennsylvania	2.0	
West Virginia	2.0	
New Mexico	2.2	
Kansas	2.3	
Nevada	2.3	
South Dakota	2.3	
Michigan	2.4	
Indiana	2.5	
Maine	2.5	
Oklahoma	2.5	
Florida	2.6	
Maryland	2.6	
Minnesota	2.6	
Missouri	2.6	
Ohio	2.6	
Vermont	2.6	
Arkansas	2.7	
South Carolina	2.7	
Colorado	2.9	
Texas	2.9	
California	3.0	
New York	3.1	
Arizona	3.3	
Louisiana	3.4	
Alaska	3.6	***Most Decentralized***

Information Resource Operations

Rhode Island	1.0	***Most Centralized***
Illinois	1.1	
Tennessee	1.1	
Georgia	1.3	
Wyoming	1.3	
Nebraska	1.5	
Utah	1.5	
Hawaii	1.6	
Minnesota	1.6	
Maine	1.7	
New Jersey	1.7	
Alaska	1.8	
Alabama	1.9	
Delaware	1.9	
Kentucky	1.9	
Iowa	2.0	
Montana	2.0	
New Hampshire	2.0	
West Virginia	2.0	
Mississippi	2.1	
North Dakota	2.2	
Ohio	2.2	
South Dakota	2.2	
Washington	2.2	
South Carolina	2.3	
Massachusetts	2.4	
Kansas	2.5	
North Carolina	2.5	
Wisconsin	2.5	
New Mexico	2.6	
Vermont	2.6	
Missouri	2.7	
Nevada	2.7	
Connecticut	2.8	
Oregon	2.8	
California	3.0	
Indiana	3.1	
Florida	3.2	
Maryland	3.2	
Michigan	3.2	
Arizona	3.3	
Arkansas	3.4	
District of Columbia	3.4	
New York	3.4	
Oklahoma	[illegible]4	
Colorado	3.5	
Louisiana	3.5	
Virginia	3.5	
Pennsylvania	3.6	
Texas	3.6	
Idaho	3.8	***Most Decentralized***

TABLE 1.13
State Data Centers with Budgets Greater than $5 Million per Year

ALABAMA	Data Systems Management
	Highway Department
	Industrial Relations
ALASKA	Anchorage Data Center
	Juneau Data Center
ARIZONA	Department of Administration
	Department of Transportation
	Department of Revenue
	Department of Economic Security
	Department of Public Safety
ARKANSAS	Arkansas Department of Computer Services
	Arkansas State Highway & Transportation Department
	Arkansas Department of Education-migrant student records, transfer system
CALIFORNIA	Teale Data Center
	Health & Welfare Agency Data Center
	Law Enforcement Data Center
	Franchise Tax Board Data Center
COLORADO	General Government Computer Center, Department of Administration
CONNECTICUT	Department of Administrative Services (main)
	Department of Transportation
	Department of Mental Retardation
	Department of Labor
	Office of The Comptroller (elected official)
	University of Connecticut
DELAWARE	Office of Information Systems
FLORIDA	Agriculture Management Information Center
	Comptroller's Data Center
	Administrative Management Information Center
	Health and Rehabilative Services Data Center
	Kirkman Data Center
	Treasurer's Management Information Center
	Labor and Employment Security Data Center
	Law Enforcement Center
	Revenue Management Information Center
	Corporations Information System Center
	Licensing Data Center
	Florida State University Computer Center
	Super Computer Research Institute
	North East Regional Data Center
	Northwest Regional Data Center
	Southeast Regional Data Center
	Central Florida Regional Data Center
	Justice Data Center
GEORGIA	Department of Administrative Services- Central Computer Center
	Department of Administrative Services- Remote Computer Center
	Department of Labor Data Center
HAWAII	Central Computer Center operated by the Information and Communications Services Division (ICSD)
IDAHO	State Auditor
	Department of Transportation
	Department of Health & Welfare
ILLINOIS	Central Computer Facility & Satellites
	Department of Revenue
	Department of State Police
	Office of the Comptroller
	Secretary of State
	Department of Lottery
	Legislative Information Systems
INDIANA	Information Services Division
IOWA	Information Services Division, Department of General Services
	Bureau of Information Services, Department of Transportation
KANSAS	Division of Information Systems & Communications
KENTUCKY	Commonwealth Data Center
	University of Kentucky
	University of Louisville

TABLE 1.13
State Data Centers with Budgets Greater than $5 Million per Year
(Continued)

LOUISIANA	Department of Social Services
	Department of Public Safety
	Department of Employment & Training (Labor)
	Department of Transportation & Development
	Louisiana State University
	Division of Administration
MAINE	Bureau of Data Processing
MARYLAND	Comptroller's Office - Annapolis Data Center
	Comptroller's Office - Baltimore Data Center
	Department of Public Safety & Correctional Services
	Department of Transportation
	Department of Health & Mental Hygiene
	Department of Human Resources
	Judicial Department
	Maryland Automobile Insurance Fund
	University of Maryland Systems
MASSACHUSETTS	Office of Management Information Systems
	Department of Revenue
	Department of Employment & Training
	Executive Office of Public Safety
MICHIGAN	Commerce
	Correction
	Education
	Labor
	Lottery
	Management and Budget
	Transportation
	Employment Services
	Natural Resources
	Public Health
	Social Services
	State
	State Police
	Treasury
MINNESOTA	InterTechnologies
	Jobs & Training
MISSISSIPPI	State Computer Center
	Employment Security Commission
MISSOURI	Office of Administration
	Highway & Transportation
	Mental Health
	Public Safety
	Revenue
	Social Services
MONTANA	Department of Administration, Information Services Division
NEBRASKA	Central Data Processing
NEVADA	Department of Data Processing
	University of Nevada System
NEW HAMPSHIRE*	Division of Information Services
	University Systems
	Department of Transportation
	The Liquor Commission
	Department of Safety
	Department of Employment Security
NEW JERSEY	Office of Telecommunications and Information Systems Barrack Street
	Office of Telecommunications and Information Systems River Road
	Office of Telecommunications and Information Systems Quakerbridge
	Office of Telecommunications and Information Systems Hub
NEW MEXICO	Information Systems Division
	State Highway and Transportation Department

TABLE 1.13
State Data Centers with Budgets Greater than $5 Million per Year
(Continued)

NEW YORK*	Individual budgets are not available. The largest data centers are located in:
	Department of Social Services
	Education Department
	Tax & Finance Department
	Office of General Services
	Motor Vehicles Department
	Labor Department
	Office of Mental Health
	Division of Criminal Justices Services
	Department of Transportation
	Insurance Department
NORTH CAROLINA	State Information Processing Services
NORTH DAKOTA	Information Services Division
OHIO	Administrative Services
	Auditor
	Education
	Employment Services
	Highway Safety
	Lottery
	Secretary of State
	Student Loans
	Taxation
	Transportation
	Workers' Compensation
OKLAHOMA	Office of State Finance
	Employment Security Commission
	Department of Transportation
	Tax Commission
	Department of Human Services
OREGON	Executive Department
	Department of Human Resources
	Department of Transportation
	Oregon State System of Higher Education
PENNSYLVANIA	Department of Education
	Department Environmental Resource
	Department Labor & Industry
	Department Public Welfare
	Department Revenue
	Office of Administration
	State Police
	Transportation
	Office of Budget
RHODE ISLAND	Department of Administration
SOUTH CAROLINA	Clemson University
	Department of Education
	Department of Health and Environmental Control
	Department of Highways and Public Transportation
	Division of Information Resource Management
	Medical University of South Carolina
	Department of Social Services
	University of South Carolina
SOUTH DAKOTA	Information Processing Services
	Department of Labor
	Higher Education
TENNESSEE	Office of Information Resources
TEXAS	Attorney General's Office
	Comptroller of Public Accounts
	Department of Criminal Justice
	Department of Highways and Public Transportation
	State Board of Insurance
	State Purchasing and General Services Commission

TABLE 1.13

State Data Centers with Budgets Greater than $5 Million per Year

(Continued)

TEXAS	Department of Public Safety
	Water Commission
	Workers' Compensation Commission
	Department of Health
	Department of Human Services
	Department of Mental Health/Mental Retardation
	Rehabilitation Commission
	Employment Commission
	Central Education Agency
	* Does not include universities.
UTAH	Division of Information Technology
VERMONT	None
VIRGINIA	William and Mary College
	University of Virginia
	University of Virginia Hospital
	Virginia Polytechnic Institute
	Virginia State University
	James Madison University
	Old Dominion University
	Medical College of Virginia
	Virginia Commonwealth University
	Virginia Community College System
	George Madison University
	Department of Mental Health and Mental Retardation & Substance Abuse Services
	Department of Transportation
	State Police
	Department of Corrections
	Department of Information Technology
WASHINGTON	Administrator for the Courts
	WA State Lottery
	Department of Labor & Industries
	Department of Corrections
	Department of Information Services
	Washington Community College Computing Consortium
	Department of Transportation
	University of Washington
	Washington State University
	Department of Licensing
WEST VIRGINIA	Information Services and Communication
	Higher Education- Colleges
WISCONSIN	Department of Transportation
	Department of Industry, Labor & Human Relations
	Department of Health & Social Services
	Department of Revenue
	UW - Administrative Data Processing
WYOMING	Computer Technology
D.C.	Department of Human Resources
	Metropolitan Police Department
	Department of Public Works
	Department of Employment Services

** These are the largest data centers in the state, but are not necessarily agencies with budgets in excess of five million dollars per year.*

Appendix to Chapter One - State Contacts

The following state by state roster identifies the individuals responsible for statewide computer services within state government (chief officer); for the central operating agency; for information technology policy formulation; and for information systems training. In cases where "see above" is listed, the individual who is responsible for statewide computer services also has responsibility for the central operating agency and in some cases for policy formulation.

ALABAMA

Chief Officer: Rod Benton
Assistant Director
Data Systems Management Division
Department of Finance
64 North Union Street-Room 250
Folsom Administrative Building
Montgomery, AL 36130
205/242-3104

Operations: See above.

Policy: Technology Evaluation Committee
Staff Contact: Rick Courson
64 North Union Street- Room 250
Folsom Administrative Building
Montgomery, AL 36130
205/242-3591

Training
Staff Contact: Don Pate
Data Systems Management Division
Department of Finance
64 North Union Street-Room 250
Folsom Administrative Building
Montgomery, AL 36130
205/242-3367

ALASKA

Chief Officer: John Valensi
Director
Division of Information Services
Department of Administration
P.O. Box C, MS 0206
Juneau, AK 99811
907/465-2220

Operations: See above.

Policy: Telecommunications Information Council
Staff Contact: John Valensi
Division of Information Services
Department of Administration
P.O. Box C, MS 0206
Juneau, AK 99811
907/465-2220

Training
Staff Contact: Ralph Wesser
Division of Information Services
Department of Administration
P.O. Box C, MS 0206
Juneau, AK 99811
907/465-2220

Craig Hamada
Division of Personnel
Department of Administration
P.O. Box C, MS 0206
Juneau, AK 99811
907/465-4430

ARIZONA

Chief Officer: Ben Froehlich
Assistant Director
Data Management Division
Department of Administration
1616 W. Adams
Phoenix, AZ 85007
602-542-5791

Operations: There are five major data centers in Arizona.

Department of Administration
Staff Contact: Ben Froehlich, Assistant Director
1616 W. Adams
Phoenix, AZ 85007
602-542-5791

Department of Revenue
Staff Contact: Rudy Serino, Assistant Director
1616 W. Monroe
Phoenix, AZ 85007
602/542-3141

Department of Transportation
Staff Contact: John McDowell, Information Services Manager
206 S. 17th Avenue, Room 104B
Phoenix, AZ 85007
602/255-7351

Department of Public Safety
Staff Contact: Curt Baer, Data Processing Manager
2102 W. Encanto Boulevard
Phoenix, AZ 85005
602/223-2000

Department of Economic Security
Staff Contact: Bill Pierce, Assistant Director
1720 W. Madison
Phoenix, AZ 85007
602/542-5806

Policy: Department of Administration
Staff Contact: Ben Froehlich or Frank Dukarm
1616 W. Adams
Phoenix, AZ 85007
602-542-5791

Training
Staff Contact: Cynthia Meyers
Department of Administration
1616 W. Adams
Phoenix, AZ 85007
602/542-2348

ARKANSAS

Chief Officer: John A. Kennedy
Director
Department of Computer Services
P.O. Box 3155
Little Rock, AR 72203
501/682-5535

Operations: See above.

Policy: See above.

Training
Staff Contact: Earl Buck
Management Information Systems Division
Department of Computer Services
P.O. Box 3155
Little Rock, AR 72203
501/682-4909

CALIFORNIA

Chief Officers: Robert Del Agostino
Acting Director
Teale Data Center
2005 Evergreen Street
P.O. Box 13436
Sacramento, CA 95815-4436
916/445-2910

Russell Bohart
Director
Health & Welfare Agency Data Center
1651 Alhambra Boulevard, MS 100
Sacramento, CA 95816
916/739-7700

P. K. Agarwal
Chief
Office of Management Technology & Planning
Department of General Services
1500 5th Street, Suite 116
Sacramento, CA 95814
916/323-3066

Operations: No separate centralized operating agency responsible for information systems; however please contact one of the three data centers listed above.

Policy: Office of Information Technology, Department of Finance
Staff Contact: Steve Kolodney, Director
915 L Street, 6th Floor
Sacramento, CA 95814
916/445-1777

Training
Staff Contact: Don Hallberg
Department of General Services
1500 5th Street #116
Sacramento, CA 95814
916/323-1186

COLORADO

Chief Officer: Clayton A. Powers
Staff Director
Commission on Information Management
110 16th Street, Suite 730
Denver, CO 80202
303/620-4980

Operations: See above.

Policy: See above.

Training
Staff Contact: None

CONNECTICUT

Chief Officer: Robert Granquest
Deputy Commissioner
Bureau of General & Technical Services
Department of Administrative Services
340 Capitol Avenue, 2nd Floor
Hartford, CT 06106
203/566-7093

Operations: Bureau of General & Technical Services,
Department of Administrative Services
Staff Contact: Robert Mitchell
340 Capitol Avenue
Hartford, CT 06106
203/566-8553

Policy: Office of Information & Technology
Staff Contact: Daniel M. Colarusso or
Franklin D. Johnson
80 Washington Street
Hartford, CT 06106
203/566-4310

Training
Staff Contact: Madeline Vernesoni
Bureau of General & Technical Services
Department of Administrative Services
340 Capitol Avenue
Hartford, CT 06106
203/566-3233

DELAWARE

Chief Officer: Dr. John J. Nold
Executive Director
Office of Information Systems
801 Silver Lake Boulevard
P.O. Box 370
Dover, DE 19903-0370
302/739-9628

Operations: See above.

Policy: See above.

Training
Staff Contact: Thomas W. Burn, Jr. (Acting)
Office of Information Systems
801 Silver Lake Boulevard
P.O. Box 370
Dover, DE 19903-0370
302/739-9601

FLORIDA

Chief Officer: Mike Hale
Executive Administrator
Information Resource Commission
Department of General Services
112 Bloxham Building
725 South Calhoun Street
Tallahassee, FL 32399-0001
904/488-4494

Operations: Division of Information Systems,
Department of General Services
Staff Contact: Bud Savary
M-43 Carlton Building
Tallahassee, FL 32399-0001
904/487-8904

Policy: Information Resource Commission,
Department of General Services
Staff Contact: Mike Hale, Executive Administrator
112 Bloxham Building
725 South Calhoun Street
Tallahassee, FL 32399-0001
904/488-4494

Training
Staff Contact: Huette D. Higgs
Information Resource Commission
Department of General Services
112 Bloxham Building
725 South Calhoun Street
Tallahassee, FL 32399-0001
904/488-4494

GEORGIA

Chief Officer: Robert L. Allen
Deputy Commissioner/Director
Computer Services Division
Department of Administrative Services
1520 West Floyd Building
200 Piedmont Avenue
Atlanta, GA 30334
404/656-5516

Operations: See above.

Policy: Georgia Electronic Data Processing Review Committee
Staff Contact: Virgil Baker
200 Piedmont Avenue
1706 West Floyd Building
Atlanta, GA 30334
404/656-7351

Training
Staff Contact: Barbara Jones
Computer Services Division
Department of Administrative Services
200 Piedmont Avenue
1716 West Floyd Building
Atlanta, GA 30334
404/656-7016

HAWAII

Chief Officer: Norman H. Okamura
Administrator
Information & Communications Services Division
Department of Budget and Finance
P.O. Box 150
Honolulu, HI 96810
808/548-5910

Operations: See above.

Policy: No centralized information resource department for policy

Training
Staff Contact: David Dewitt,
Chief, Education and Training Section
Information & Communications Services Division
Department of Budget and Finance
426 Queen Street, Room 205
Honolulu, HI 96813
808/586-1799 ext.1800

IDAHO

Chief Officer: Al Arvish
Statewide DP Coordinator
Information Resource Management
650 W. State Street
Boise, ID 873720
208/334-4093

Operations: See above.

Policy: See above.

Training: See above..

ILLINOIS

Chief Officer: William M. Vetter
Bureau Manager
Bureau of Communication & Computer Services
Department of Central Management Services
120 West Jefferson Street, 3rd Floor
Springfield, IL 62702-5103
217/782-4221

Operations: See above.

Policy: Bureau of Communication & Computer Services, Department of Central Management Services
Staff Contact: William M. Vetter or James Norris
120 West Jefferson
Springfield, IL 62702
217/782-0862

Training
Staff Contact: Tim Hasara
Bureau of Communication & Computer Services
Department of Central Management Services
120 West Jefferson
Springfield, IL 62702
217/782-7436

INDIANA

Chief Officer: Robert Primavera
Director
Information Services Division
Department of Administration
Room 1004 State Office Building
100 North Senate Avenue
Indianapolis, IN 46204
317/232-5995

Operations: See above.

Policy: Data Processing Oversight Commission
Staff Contact: William J. Elliott
309 W. Washington Street
Indianapolis, IN 46204
317/232-0182

Training
Staff Contact: Joa S. Heldman
Information Services Division
Department of Administration
100 North Senate Avenue
Room 1004 State Office Building
Indianapolis, IN 46204
317/232-4633

IOWA

Chief Officer: Dale L. Nelson
Administrator
Information Services Division
Department of General Services
Hoover State Office Building, Level B
Des Moines, IA 50319
515/281-5503

Operations: See above.

Policy: See above.

Training
Staff Contact: Nancy Loghry
Information Services Division
Department of General Services
Level B Information Services Division
Education Center
Hoover State Office Building
Des Moines, IA 50319
515/281-6130

KANSAS

Chief Officer: Jean Turner
Director
Division of Information Systems &
Communications
Department of Administration
900 SW Jackson, Room 751-S
Topeka, KS 66612-1275
913/296-3463

Operations: See above.

Policy: Bureau of Information Resource
Management
Staff Contact: Roberta Giovannini, Deputy Director
900 SW Jackson, Room 751-S
Topeka, KS 66612
913/296/3463

Training
Staff Contact: William R. McGlasson
Bureau of Information Resource
Management
900 SW Jackson, Room 751-S
Topeka, KS 66612
913/296-2670

KENTUCKY

Chief Officer: Stephen N. Dooley
Commissioner
Department of Information Systems
Finance and Administration Cabinet
101 Cold Harbor Drive
Frankfort, KY 40601
502/564-7777

Operations: See above.

Policy: Kentucky Information Systems
Commission
Staff Contact: Linda Pittenger
101 Cold Harbor Drive
Frankfort, KY 40601
502/564-8951

Training
Staff Contact: Donna L. Burnette
Systems Training Branch
Department of Information Systems
Finance and Administration Cabinet
663 Teton Trail
Frankfort, KY 40601
502/564-5263

LOUISIANA

Chief Officer: Dr. Allen Doescher
Assistant Commissioner
Division of Administration
P.O. Box 94095
Baton Rouge, LA 70804-9095
504/342-7000

Operations: See above.

Policy: no centralized information resource
department for policy

Training
Staff Contact: Sam Breen
Division of Administration
P.O. Box 94095
Baton Rouge, LA 70804-9095
504/342-7105

MAINE

Chief Officer: George E. Barker, Jr.
Deputy Commissioner
Office of Information Services
State House Station #145
Augusta, ME 04333-0145
207/626-8893

Operations: See above.

Policy: Information Services Policy Board
Staff Contact: George E. Barker, Jr.
State House Station #145
Gardiner, ME 04333-0145
207/582-8884

Training
Staff Contact: Glenda Winn
Office of Information Services
State House Station #145
Gardiner, ME 04333-0145
207/582-8883 ext. 13112

MARYLAND

Chief Officer: Charles L. Benton
Secretary
Department of Budget and Fiscal Planning
Louis L. Goldstein Treasury Building, 4th Floor
Annapolis, MD 21401
301/974-2114

Operations: See above.

Policy: Department of Budget and Fiscal Planning
Staff Contact: Alexius O. Bishop
Deputy Director of Budget Analysis
Louis L. Goldstein Treasury Building, 4th Floor
Annapolis, MD 21401
301/974-3749

Training
Staff Contact: John Dunnigan
Department of Budget and Fiscal Planning
300 W. Preston Street, Room 510
Baltimore, MD 21201
301/225-1046

MASSACHUSETTS

Chief Officer: James Corum
Director
Office of Management Information Systems
Office for Administration & Finance
One Ashburton Place, Room 801
Boston, MA 02108
617/973-0720

Operations: See above.
Policy: Governor's Advisory Committee on Information Technology
Staff Contact: James Corum or Patricia Wada
Office of Management Information Systems
Office for Administration & Finance
One Ashburton Place, Room 801
Boston, MA 02108
617/973-0730

Training
Staff Contact: Patricia Wada
Director
Office of Technology Planning
One Ashburton Place, Room 1601
Boston, MA 02108
617/973-0730

MICHIGAN

Chief Officer: Gerald W. Williams
Director
Office of Management & Information Systems
Lewis Cass Buildling
320 S. Walnut Street
Lansing, MI 48933
517/373-8816

Operations: no separate centralized operating agency responsible for information systems

Policy: See above.

Training
Staff Contact: Marvin Ray
Director
Personnel Development Division
Department of Civil Service
P.O. Box 30002
Lansing, MI 48909
517/373-2853

MINNESOTA

Chief Officer: Bernard Conlin
Assistant Commissioner
InterTechnologies Group
5th Floor Centennial Office Building
658 Cedar Street
St. Paul, MN 55155
612/297-5610

Operations: See above.

Policy: Information Policy Office
Staff Contact: Bev Schuft (Acting)
309 Administration Building
50 Sherbourne Avenue
St. Paul, MN 55155
612-296-5643

Training
Staff Contact: Sandra Thompson
Administration
InterTechnologies Group
5th Floor Centennial Office Building
658 Cedar Street
St. Paul, MN 55155
612/296-6645

MISSISSIPPI

Chief Officer: Frank C. Stebbins
Executive Director
Central Data Processing Authority
301 N. Lamar Street, Suite 508
Jackson, MS 39201
601/359-1395

Operations: See above.

Policy: See above.

Training
Staff Contact: Karen K. Newman
Central Data Processing Authority
301 N. Lamar Street, Suite 508
Jackson, MS 39201
601/359-2629

MISSOURI

Chief Officer: Jim Schutt
Director
Division of Data Processing & Telecommunications
Office of Administration
P.O. Box 809
Jefferson City, MO 65102
314/751-3338

Operations: See above.

Policy: Statewide Planning & Coordination Section, Division of Data Processing & Telecommunications, Office of Administration
Staff Contact: Carolyn Kampeter
Manager, Planning and Coordination
P.O. Box 809
Jefferson City, MO 65102
314/751-2688

Training
Staff Contact: Norman Gillmore
Finance and Administration
P.O. Box 809
Jefferson City, MO 65102
314/751-1505

MONTANA

Chief Officer: Mike Trevor
Administrator
Information Services Division
Department of Administration
Room 221 Mitchell Building
Helena, Montana 59620
406/444-2700

Operations: Information Services Division, Department of Administration
Staff Contact: Tony Herbert
Room 221 Mitchell Building
Helena, Montana 59620
406/444-2700

Policy: Information Services Division, Department of Administration
Staff Contact: Mike Trevor, Administrator
Room 221 Mitchell Building
Helena, Montana 59620
406/444-2700

Training
Staff Contact: Randy Holm
Information Services Division
Department of Administration
Room 237 Mitchell Building
Helena, Montana 59620
406/444-3987

NEBRASKA

Chief Officer: Charles Taylor
Administrator
Central Data Processing
Department of Administrative Services
501 South 14th Street
Lincoln, NE 68509
402/471-2065

Operations: See above.

Policy: See above.

Training
Staff Contact: Jerry Hielen
Applications Information Manager
Central Data Processing
Department of Administrative Services
501 South 14th Street
Lincoln, NE 68509
402/471-2065

NEVADA

Chief Officer: Karen Kavanau
Director (Acting)
Department of Data Processing
209 E. Musser Street, Room 306
Carson City, NV 89710
702/687-4090

Operations: See above.

Policy: See above.

Training
Staff Contact: Bill Fletcher
Systems & Programming Division
Department of Data Processing
209 E. Musser Street, Room 304
Carson City, NV 89710
702/687-4091

NEW HAMPSHIRE

Chief Officer: Frank Champa
Administrator
Division of Information Services
4 Hazen Drive
Concord, NH 03301
603/271-3763

Operations: See above.

Policy: See above.

Training
Staff Contact: No official position; however, a personal computer group trains personnel outside the Division of Information Services.

NEW JERSEY

Chief Officer: Robert L. Smartt
Administrator
Office of Telecommunications &
Information Systems, CN 215
Department of Treasury
50 W. State Street
Trenton, NJ 08625
609/633-9030

Operations: See above.

Policy: See above.

Training
Staff Contact: Edward Nelson
Human Resource Development Training &
Employees Services
Personnel
44 S. Clinton Avenue
Trenton, NJ 08625
609/984-4762

NEW MEXICO

Chief Officer: Cesar A. Lombana
Director
Information Systems Division
General Services Department
715 Alta Vista
Santa Fe, NM 87503
505/827-2001

Operations: See above.

Policy: Information Systems Council
Staff Contact: Danielle Wilson
715 Alta Vista
Santa Fe, NM 87503
505/827-2000

Training
Staff Contact: Jay Quintana
Information Systems Division
General Services Department
715 Alta Vista
Santa Fe, NM 87503
505/827-2113

NEW YORK

Chief Officer: New York does not have a single organization responsible for statewide computer services.
For more information, contact:
Sharon Dawes
Executive Director
New York State Forum for Information
Resource Management
c/o Rockefeller Institute of Government
411 State Street
Albany, NY 12203
518/426-7426

Operations: See above.

Policy: See above.

Training: None

NORTH CAROLINA

Chief Officer: Charles R. Williams
Chief
State Information Processing Services
3700 Wake Forest Road
Raleigh, NC 27609-6860
919/733-5555

Operations: See above.

Policy: Information Technology Commission, IRM
Planning & Policy
Staff Contact: Doug Deaton, Manager
3700 Wake Forest Road
Raleigh, NC 27609
919/733-5555

Training
Staff Contact: Carol Coonley
Manager Training Services
State Information Processing Services
3700 Wake Forest Road
Raleigh, NC 27609
919/733-5555

NORTH DAKOTA

Chief Officer: Jim Heck
Director
Information Services Division
600 East Boulevard
Bismarck, ND 58505-0100
701/224-3190

Operations: Information Services Division
Staff Contact: Joe Wolf
600 East Boulevard
Bismarck, ND 58505-0100
701/224-4306

Policy: no centralized information resource department

Training
Staff Contact: Joe Wolf
Information Services Division
600 East Boulevard
Bismarck, ND 58505-0100
701/224-4306

OHIO

Chief Officer: Peter McGeoch
Deputy Director
Division of Computer Services
Department of Administrative Services
30 E. Broad Street, 39th Floor
Columbus, OH 43266-0409
614-455-5860

Operations: See above.

Policy: Office of Information Systems Policy & Planning
Staff Contact: Margaret Theibert
Information Systems Policy Manager
30 E. Broad Street, Room 3920
Columbus, OH 43215
614-466-5083

Training
Staff Contact: Rick Sayre
Computer Education Center
Department of Administrative Services
30 E. Broad Street, 40th Floor
Columbus, OH 43215
614/644-8870

OKLAHOMA

Chief Officer: Tom R. Terry
Director
Information Services Division
Office of State Finance
2209 North Central
Oklahoma City, OK 73105
405/521-3463

Operations: See above.

Policy: Systems Planning Group
Staff Contact: Jerry G. Stillwell
2209 North Central
Oklahoma City, OK 73105
405/521-2844

Training
Staff Contact: Robert Anderson
Information Services Division
Office of State Finance
2209 North Central
Oklahoma City, OK 73105
405/521-4218

OREGON

Chief Officer: Gerald C. Schmitz
Administrator
Information Systems Division
State Executive Department
155 Cottage Street NE
Salem, OR 97310
503/378-3161

Operations: See above.

Policy: Planning, Review & Education Section, Information Systems Division
Staff Contact: George K. Beard, Manager
155 Cottage Street NE
Salem, OR 97310
503/378-4126

Training
Staff Contact: David Beaton
Information Systems Division
Executive Department
155 Cottage Street NE
Salem, OR 97370
503/378-2399

PENNSYLVANIA

Chief Officer: Richard M. Walsh
Special Assistant to the Governor for Computer Information Systems
Governor's Office of Administration
P.O. Box 1326
Harrisburg, PA 17105-1326
717/787-5440

Operations: See above.

Policy: Bureau of Automated Technology Management
Governor's Office of Administration
Staff Contact: Joseph S. Connovitch
G-13
2221 Forster Street
Harrisburg, PA 17105-1326
717/787-9107

Training
Staff Contact: Andy Hartman
Central Management Information Center
Office of Administration
P.O. Box 1326
Harrisburg, PA 17105-1326
717/787-5440

RHODE ISLAND

Chief Officer: Richard A. Pierson
Acting Information Processing Officer
Office of Information Processing
One Capitol Hill
Providence, RI 02908-5857
401/277-2276

Operations: See above.

Policy: no centralized information resource department

Training
Staff Contact: Richard Mattias
Office of Information Processing
One Capitol Hill
Providence, RI 02907
401/277-2276

SOUTH CAROLINA

Chief Officer: Larry Huckabee
Assistant Director
Information Technology Policy and Management
State Budget and Control Board
100 Assembly Street, Suite 425
Columbia, SC 29201
803/734-3621

Operations: Division of Information Resource Management
Staff Contact: Ted Lightle
1201 Main Street, Suite 930
Columbia, SC 29201
803/737-0075

Policy: State Information Technology Advisory Committee
Staff Contact: Larry Huckabee, Chairman
100 Assembly Street, Suite 425
Columbia, SC 29201
803/734-3658

Training
Staff Contact: Sam Jones
Division of Human Resource Management
State Budget and Control Board
300 Gervais Street
Columbia, SC 29201
803/737-2060

SOUTH DAKOTA

Chief Officer: Jeff Stroup
Commissioner of Administration
Bureau of Administration
500 East Capitol
Pierre, SD 57501-5075
605/773-3688

Operations: Information Processing Services, Bureau of Administration
Staff Contact: James Douglas, Director
500 East Capitol
Pierre, SD 57501-5075
605/773-3807

Policy: no centralized information resource department

Training
Staff Contact: Mark Lester
Information Processing Services
Bureau of Administration
Kneip Building
700 Governor Boulevard
Pierre, SD 57501
605/773-3116

TENNESSEE

Chief Officer: Bradley S. Dugger
Chief of Information Systems
Department of Finance & Administration
Suite 1020
Nashville City Center
511 Union Street
Nashville, TN 37243-0288
615/741-2569

Operations: See above.

Policy: See above.

Training
Staff Contact: David Wooten
Technical Training Manager
Department of Finance & Administration
2nd Floor, Andrew Jackson State Office Building
Nashville, TN 37243-0289
615/741-5425

TEXAS

Chief Officer: Ann S. Fuelberg
Executive Director
Department of Information Resources
13001 Capitol Square
300 W. 15th Street
P.O. Box 13564
Austin TX 78711
512/371-1120

Operations: See above.

Policy: Information Resource Administration Division
Department of Information Resources
Staff Contact: Ann Baker, Associate Deputy Director
P.O. Box 13564
Austin, TX 78711
512/371-1120

Training
Staff Contact: Yvonne M. Davis
Director of Training & Staff Development
Department of Information Resources
P.O. Box 13564
Austin TX 78711-3564
512/371-1120

UTAH

Chief Officer: G. Stephen Grimshaw
Director
Division of Information Technology Services
5000 State Office Building
Salt Lake City, UT 84114
801/538-3003

Operations: See above.

Policy: Information Technology Review Committee
Staff Contact: Harold Carpenter
State Information Technology Coordinator
Office of Planning & Budget, Room 116
Salt Lake City, UT 84114
801/538-1027

Training
Staff Contact: Rose Millegan
Division of Information Technology Services- Contract Management
5000 State Office Building
Salt Lake City, UT 84114
801/538-3611

VERMONT

Chief Officer: Bruce MacDonald
Director
State Information Systems
Department of General Services
133 State Street
Montpelier, VT 05602
802/828-2334

Operations: See above.

Policy: no centralized information resource department

Training
Staff Contact: Doug Pierson
State Information Systems
General Services Department
133 State Street
Montpelier, VT 05633-6601
802/828-2334

VIRGINIA

Chief Officer: J. Westwood Smithers, Jr.
Director
Department of Information Technology
110 South Seventh Street
Richmond, VA 23219
804/344-5500

Operations: Department of Information Technology
Staff Contact: Michael J. D[illegible]kin
Planning and Policy Division
Department of Information Technology
101 North 14th Street, 6th Floor
Richmond, VA 23219
804/225-2423

Policy: Council on Information Management
Staff Contact: William E. Landsidle
1100 Bank Street
Richmond, VA 23219
804/225-3622

Training
Staff Contact: Connie D. Riffe
Manager
Training and Career Development Branch
Department of Information Technology
110 South Seventh Street (3rd Floor)
Richmond, VA 23219
804/344-5648

WASHINGTON

Chief Officer: Brad Blanchard
Director
Department of Information Services
1110 SE Jefferson Street
Olympia, WA 98504-8111
206/586-5555

Operations: See above.

Policy: Information Services Board
Staff Contact: John D. Flanagan
1110 SE Jefferson Street
Olympia, WA 98504-8111
206/753-0604

Training
Staff Contact: Sunny Cotey
Department of Information Services
1310 [illegible] Jefferson Street, Mail Stop: PE-11
Olympia, WA 98504
206/586-2406

WEST VIRGINIA

Chief Officer: Royce Chambers
Director
Information Services and Communications
Department of Administration
Building 6, Room B-102
1900 Washington Street, East, Capitol Complex
Charleston, WV 25305
304/348-8918

Operations: See above.

Policy: Information Services and Communications Advisory Council
Staff Contact: Royce Chambers, Director
Department of Administration
Building 6, Room B-102
1900 Washington Street, East, Capitol Complex
Charleston, WV 25305
304/348-8918

Training
Staff Contact: Helen Wilson
Acting Director of Planning & Control
Information Services and Communication
Department of Administration
Building 6, Room B-163
1900 Washington Street, East, Capitol Complex
Charleston, WV 25305
304/348-6387

WISCONSIN

Chief Officer: Sara C. Fullmer
Wisconsin State Data Processing Officer
Department of Administration
One West Wilson, #1150
Madison, WI 53702
608/267-0627

Operations: See above.

Policy: Board on Information Technology supported by Bureau of Information Technology Management
Staff Contact: Sara Fullmer
One West Wilson, #1150
Madison, WI 53702
608/266-0000

Training
Staff Contact: None

WYOMING

Chief Officer: Theodore J. Kerekes
Administrator, Data Services
Computer Technology Division
Emerson Building
2001 Capitol Avenue
Cheyenne, WY 82002
307/777-5000

Operations: Computer Technology Division
Staff Contact: See above

Policy: Computer Technology Advisory Council
Staff Contact: Dan Glandt, Chairman
Wyoming State Transportation Department
P.O. Box 1708
Cheyenne, WY 82003-1708
307/777-4427

Training
Staff Contact: David Bliss
Computer Technology Division
Emerson Building
Cheyenne, WY 82002
307/777-5007

DISTRICT OF COLUMBIA

Chief Officer: Edward Winner
Director
Office of Financial Information Services
410 E Street NW Washington, DC 20002
202/727-0641

Operations: no separate centralized operating agency
responsible for information systems

Policy: Systems Management Services Division
Information Resources Management
Administration
Staff Contact: Michael R. Stover, Associate Director
613 G Street, NW
Washington, DC 20002
202/727-2277

Training
Staff Contact: None

Chapter Two
FINANCIAL

TRENDS IN IRM EXPENDITURES

Budgeting, networking, equipment upgrades/ changes and adoption of new technologies led the list of trends in IRM expenditures reported by the states and the **District of Columbia**. See table 2.1 for a state by state response.

Budgeting

Fiscal pressure has led several states to freeze, curb, or reduce IRM expenditures. Nine respondents, **Connecticut, Indiana, Maryland, Massachusetts, Minnesota, Nevada, New Jersey, South Carolina, and Vermont**, indicated shrinking budgets for expenditures. Particularly, **Connecticut** reported a freeze on all purchases of data processing equipment and services unless public safety is jeopardized. It will, however, allow some acquisitions through an exception process. A lack of funds has led **New Jersey** to a reduction in all expenditures. Fiscal constraints have led to a postponement of new acquisitions and a review/reduction in maintenance and software packages. **Maryland** indicates a reduction in all IRM funds available from $251.5 million in fiscal year 1991 to $227.2 million in fiscal year 1992. This is a decrease of $24.3 million. Salaries are projected to decrease by $2.7 million while the number of positions is projected to increase by almost 1.5%. Contractual services are projected to decrease by $4.8 million. Equipment expenditures are also projected to fall by $6.5 million. **Vermont** also reports downsizing.

While some states are coping with reduced budgets, seven-- **Alabama, Alaska, Colorado, Kentucky, Ohio, South Dakota, Wisconsin**-- reported increases in expenditures. In **Ohio**, salary increases were reported for data processing and telecommunications that resulted in the addition of two new pay ranges to the top of the scale. **Wisconsin** reported growth in the investment and expenditures of personal computers and in computer assisted software engineering (CASE).

Networking

Seven respondents (16%) reported that generic networking is a trend. Sharing of networks between many agencies was cited three times. Nine respondents (21%) identified trends in local area networks (LANs) and four respondents (9%) cited wide area networks (WANs). Both **Oklahoma** and **Utah** indicated investment in backbone networks.

Equipment updates/changes

The upgrade of equipment is an important part of all information services departments. There are several areas where equipment upgrading is reported as a significant trend in IRM expenditures. Ten respondents-- **Georgia, Kansas, Michigan, New York, North Carolina, Virginia, Washington, Wisconsin, Wyoming, and the District of Columbia**-- reported a move from mainframes to microcomputer use. The **District of Columbia**, for example, reported that their use of personal computers is rising. **New York** indicated a growth rate of 25% in microcomputers. The growth remains high and many of the newer applications being developed run on micros either as stand-alone workstations or in networks. Only **Utah** mentioned mainframe capacity as a trend.

New applications systems, hardware, and software reports were the next most reported equipment upgrades. **North Carolina** is working towards an expansion of telecommunications services that will include video conferencing, 800 mhz radio service, local area networks, and wide area networks.

Adoption of new technologies

The adoption of new technologies is an exciting part of information resources. **Delaware, Minnesota, North Carolina, Texas, Washington, and Wisconsin** reported trends in expenditures for imaging. Artificial intelligence was cited by **Delaware and Illinois**. Another area of interest is geographic information systems. **North Carolina, New Mexico, Texas, and Wisconsin** listed GIS as a trend in spending. **Virginia** cited the use of several optical disk systems installed or on order.

There were several interesting trends that were cited, but did not fit into one of the four categories. **In California** managerial concerns are the primary focus. For example, it has called for a centralization of managerial classes, broader recruitment base, and more managerial development. **Hawaii** indicated that it is working towards the development of an information industry and citizen access to public information. **Montana** cited expenditures for disaster recovery planning.

FUNDING STRUCTURE FOR STATE INFORMATION RESOURCES

Table 2.2 shows by percentage each states funding structure for information resources. Funding structures for information resource activities primarily took two forms - revolving funds and direct appropriations. Thirty states use revolving funds at least to some degree. Twenty-eight states use direct appropriations to some extent. Working capital funds were used much less frequently; only five states have working capital funds. Ten states noted that they had a funding structure other than that which was listed. **Georgia, Kentucky,** and **Pennsylvania** added that they were funded by agencies or agency augmentation. Two states listed other governmental funding: **Wyoming** receives intergovernmental funding, and over a third of **Iowa's** funding is from the federal government. Other funding structures specified include: development (**Delaware**), training (**Maryland**), general fund (**Minnesota**), and revenue (**South Carolina**). **Massachusetts** noted that it used another funding structure but did not specify.

CHARGE-BACK PROCEDURES

Forty-seven states and the **District of Columbia** (94%) indicated that they had charge-back procedures for data processing. For telecommunications, 43 states and the **District of Columbia** (86%) indicated that they had charge-back procedures. The evidence points to a significant number of respondents who gain revenue for their services through the charge-back procedure. When asked to elaborate and describe the specific type of charge-back method used, 34 responded.

Several different methods of cost recovery were reported by information resource agencies. **Alaska** reported a partial charge-back procedure. It indicated that some services are funded by full charge-back and some are supplemented with general funds. It is, however, planning to move towards full charge-back by fiscal year 1992.

Charge-back by usage was the most commonly described method of charge-back reported. Sixteen states listed usage as the way they conduct charge-back procedure (see Table 2.3).

Five states-- **Georgia, Idaho, Indiana, Mississippi, and Nevada**-- and the **District of Columbia** cited charge-back for machine use. Rate structures, too, accounted for several of the charge-backs reported. Rate setting can be based on the previous years' expenditures as is the case in **Ohio**. In **North Carolina**, a pro-rated system based on usage is used. **Kentucky's** charge-back is totally funded by agency receipts derived through application of a federally approved cost-allocation plan-based utilization.

INFORMATION TECHNOLOGY PROCUREMENT

Who executes the procurement?

States reported a variety of ways in which procurement is executed, ranging from the division of purchasing to individual agencies (See table 2.4). For example, if an agency in **California** has a procurement to execute, it must be less than $100,000. If the procurement is greater than $100,000, then the agency loses its power to execute the procurement and it becomes the responsibility of the Department of General Services. **Virginia** has similar conditions. What differs is the amount of money in consideration. For an individual agency to receive responsibility for executing the procurement, the dollar value must be less than $15,000. If the amount of money in question is greater than $15,000, then the responsibility for procurement execution goes to the Department of Information Technology. **Alaska** has a similar procedure, but no monetary dividing point. Each agency is given a certain amount of delegated authority and if the procurement exceeds the agency's authority, the execution gets passed on to the Division of General Services. In **Texas,** individual agencies have authority over software and services, but when executing the procurement for hardware, the State Purchasing and General Service Commission steps in and assumes the responsibility. Agencies with review and approval authority over information technology procurement are described in Table 2.5.

Methods of Information Technology Procurement

The most common forms of procurement are Invitation for Bids (IFB), Requests for Proposals (RFP), Request for Information (RFI), Emergency Procurement, and Sole Source. Each of these forms are widely used, and their use varied little depending on whether the procurement concerned data processing or telecommunications. Table 2.6 indicates the methods used by each state.

Percentage of States Using Various Forms of Procurement for Information Technology

	Data Processing (n=51)	Telecommunications (Adjusted - n=47)
Invitation for Bids	76%	79%
Request for Proposals	96%	98%
Request for Information	84%	81%
Emergency Procurement	82%	89%
Sole Source	96%	96%

Methods for data processing

For data processing, all but two states use Request for Proposals, and all but two states use Sole Source. This is an interesting statistic in that Request for Proposals is a competitive bidding process while Sole Source is essentially non-competitive. However, there is one emerging similarity. Unlike Invitation for Bids, RFPs provide for differences in services and products among submitted proposals in awarding contracts. This focus on what is being provided is similar to the idea behind Sole Source. In Sole Source, contracts may be awarded when only one source is shown to provide a product or service.

Furthermore, IFBs were used by the least number of states for data processing. This along with the high number responding to RFPs and Sole Source shows that for information technology price is not the overwhelming factor. The specific requirements for products and services and how well vendors meet these needs play an important role too.

Methods for telecommunications

The percentage of states using each form of procurement for telecommunications changed little from those of data processing. RFPs were used by the most states, and Sole Source was slightly below that. Only Request for Information showed a decrease from data processing, and this decrease was small. Four states - **Nebraska, New Hampshire, Oregon,** and **Pennsylvania** - did not respond for telecommunications procurement.

Primary Method

Table 2.7 shows each state's *primary* method of procurement. RFP was cited as the primary method by 57% or 29 states and the District of Columbia. Nine states or 18% listed IFB as the primary method. Another 14% or seven states listed both RFP and IFB. **Florida** was the only state to list Sole Source as the primary method. **North Carolina** said that it used sole source for upgrades but IFB's for new resources. Three states listed other primary methods of information technology procurement including RFB, agency requests, and Request for Quotation. No one listed RFI or Emergency Procurement as a primary method.

THE USE OF STATE OR TERM CONTRACTS FOR INFORMATION TECHNOLOGY PURCHASING

Forty-six of the states use state or term contracts for information technology. The states use state or term contracts to buy a wide array of information technology products. These states and the products they buy using state or term contracts are listed in Table 2.8. The contracts are used most often for hardware, especially microcomputers. Other types of hardware purchased with state or term contracts are all types of peripherals, telecommunications equipment, supplies, and some mainframes and LANs. Software too was listed as being purchased with contracts, but it was not listed as often nor as specifically as hardware. States also purchase services such as programming, education support, telecommunication support, data processing services, and outside analysts with state or term contracts.

TABLE 2.1
Trends in IRM Expenditures

	Trends
ALABAMA	Increasing expenditures for professional services
ALASKA	More expenditures in the area of local area and wide area networks. Agencies are bidding for complete solutions= hardware, software, and professional services when adding solutions to their problems.
ARKANSAS	Networking of microcomputers
CALIFORNIA	Focus on need of enterprise-wide architecture
	Centralization of testing in managerial classes
	Broadening the recruitment base
	Managerial development
COLORADO	Increasing investment in developing new application systems and replacing outdated hardware
CONNECTICUT	Freeze imposed on all purchases of DP equipment and services unless public safety impacted. Allow some acquisitions through the exception process.
DELAWARE	The emphasis on adopting some of the new technologies. Imaging and artificial intelligence.
FLORIDA	Procurement of distributed PC and LANs.
GEORGIA	Purchases in the personal computer and software area continue to increase in great volumes.
HAWAII	Strategic program initiative for telecommunications & computers:
	Development of an information industry
	Access to public information;
	Create a statewide information network.
IDAHO	New system acquisitions
ILLINOIS	Automated operations
	Artificial intelligence
	Disaster recovery
	LANs
INDIANA	Total funding will be reduced during next biennium
	Central information services agency will utilize revolving fund financing more heavily next biennium.
	IOWAMultiagency sharing of communications networks
	End user computing
KANSAS	Increase use of information technology
	Increase reliance on small computers
	Emphasis on database management
	CASE
	Use of consultants
	Records management
KENTUCKY	Increased expenditures for desktop devices to replace terminals with corresponding increases for desktop software and end-user support
	Increased use of contractor services for development
	Emphasis on networking hardware, software, and services
LOUISIANA	Intelligent workstations on professionals' desks
	Interconnection of personal computers via LANs
	Connection of LANs via statewide backbone WAN
MAINE	Telecommunication upgrades (wide digital area networks and wiring standards)
	Hardware and software support for relational technology in intra-state applications.
MARYLAND	IRM

All Funds	Salaries	Positions Services	Contractual	Equipment
FY 91:$251.5	$97.3	2,603.3	$92.0	$45.7
FY 92:$227.2	$84.6	2,611.8	$87.2	$39.2

• dollars are in millions

MASSACHUSETTS	Fiscal crisis has required significant cuts in the Office of Management Systems budgets
MICHIGAN	Microcomputers
	Networking
MINNESOTA	Re-engineering the business
	Outsourcing
	Tight budgets
	Imaging
MISSISSIPPI	Promoting the sharing of resources to reduce costs and provide enterprise solutions
	Acquiring LANs instead of minicomputers in some cases.
MONTANA	Centralized network management and support
	Disaster recovery planning

	Trends
NEVADA	Moving to centralized planning
	Changing to 4GL/CASE/Rapid prototyping
	Upgrade to ES-9000
	Tight budgets
NEW JERSEY	There is an overall reduction in all expenditures due to a fiscal crisis.
	We are reviewing/reducing maintenance and software packages.
	New Acquisitions are postponed.
NEW MEXICO	Acquisition of data- Geographic Information Systems
	Networking issues due to distributed environment
NEW YORK	Overall rate of growth has decreased, but there is a 25% increase in microcomputers.
NORTH CAROLINA	Expansion of telecommunications services (video conferencing, 800 mhz radio service, local area networks, wide area networks)
	Microcomputers
	Imaging
	GIS
OHIO	Data processing and telecommunications salaries rose as a result of the Classification Modernization Study which added two new pay ranges to the top of the scale.
OKLAHOMA	Installation of backbone network which includes fiber optic cable and light guide equipment.
OREGON	Professional services contracts
	Case tolls acquisitions
	Data administration
	Microcomputer LAN technologies
	WAN projects
SOUTH CAROLINA	Long-range planning
	Accountability for funding
	Reduction in total amount
	Citizen access
SOUTH DAKOTA	Up slightly
TENNESSEE	Heavy new systems with positive cost/benefit payback.
	Activity in telecommunication upgrade.
TEXAS	Inter-agency coordination
	Increased use of geographic information systems
	More distributed processing
	Interest in optical storage and imaging systems
UTAH	LANs and WANs
	Significant mainframe capacity
	Investment in digitized microwave for state owned backbone
VERMONT	Downsizing
VIRGINIA	PC procurement increasing requirements to go to a relational data base on mainframes
	Several optical disk systems installed or on order
WASHINGTON	Transfer of system programs from other states
	LANs with site licensed software
	Imaging
	Increasing use of personal computers
WEST VIRGINIA	Centralization of services
	Agency automation
	Statewide systems(statewide accounting, regional jail system, purchasing and personnel systems)
WISCONSIN	Personnel costs remain at about 46% of total
	PC investment/expenditures growing significantly as percent of total
	GIS
	Imaging
	CASE expenditures growing
WYOMING	Microcomputers
	LANs
DISTRICT OF COLUMBIA	Phase out of mainframes
	Development of LANs
	Increase in PCs, although not as rapid as the federal government.

TABLE 2.2
Funding Structure for State Information Resources

	Revolving Fund	Working Capital Fund	Direct Appropriation	Other (Specified)
ALABAMA	100%	-	-	-
ALASKA	-	-	100%	-
ARIZONA	100%	-	-	-
ARKANSAS	95%	-	5%	-
CALIFORNIA	100%	-	-	-
COLORADO	-	-	100%	-
CONNECTICUT	100%(operations)	-	100% (policy)	-
DELAWARE	7%	9%	72%	12%(development)
FLORIDA	-	-	100%	-
GEORGIA	-	-	5%	95%(agency)
HAWAII	-	-	100%	-
IDAHO	-	-	100%	-
ILLINOIS	100%	-	-	-
INDIANA	33%	-	67%	-
IOWA	-	-	65%	35%(federal)
KANSAS	100%	-	-	-
KENTUCKY	-	-	-	100%(agency)
LOUISIANA	100%(telecommunications)	-	100% (data processing)	
MAINE	98.5%	-	1.5%	-
MARYLAND	-	-	98%	2%(training)
MASSACHUSETTS	10%	-	85%	5%
MICHIGAN	-	-	100%	-
MINNESOTA	72%	-	15%	13%(general fund)
MISSISSIPPI	100%	-	-	-
MISSOURI	50%	-	50%	-
MONTANA	100%	-	-	-
NEBRASKA	100%	-	-	-
NEVADA	-	97%	3%	-
NEW HAMPSHIRE	not available	-	-	-
NEW JERSEY	100%	-	-	-
NEW MEXICO	-	-	-	-
NEW YORK	not available	-	-	-
NORTH CAROLINA	98%	-	2%	-
NORTH DAKOTA	100%	-	-	-
OHIC	100%	-	-	-
OKLAHOMA	-	-	100%	-
OREGON	99%	-	1%	-
PENNSYLVANIA	-	-	-	100%(agency augmentation)
RHODE ISLAND	100%	-	-	-
SOUTH CAROLINA	-	-	90%	10%(revenue)
SOUTH DAKOTA	97.3%	-	2.7%	-
TENNESSEE	100%	-	-	-
TEXAS	60%	-	40%	-
UTAH	-	100%	-	-
VERMONT	100%	-	-	-
VIRGINIA	-	84%	16%	-
WASHINGTON	98.43%	-	1.57%	-
WEST VIRGINIA	100%	-	-	-
WISCONSIN	100%	-	-	-
WYOMING	-	-	-	100%(intergovernmental)
DISTRICT OF COLUMBIA	-	1%	99%	-

TABLE 2.3

Charge-back Procedure for Centralized Services Including Data Processing and Telecommunications

	Charge Back Procedure for Data Processing	Charge Back Procedure for Telecommunications	If Yes, Describe
ALABAMA	yes	no	-
ALASKA	yes	yes	Partial charge-back -- some services are funded by full charge-back and some supplemented with general funds -plan to go full in fiscal year 1993.
ARIZONA	yes	yes	All services provided by the Department of Administration. Data Processing: Charged to the agencies Telecommunications: Services provided from central telecommunications are charged to the using agencies.
ARKANSAS	yes	yes	Rate structure developed and utilized based on actual costs.
CALIFORNIA	yes	yes	Strictly fee for service.
COLORADO	yes	yes	Billed back by usage.
CONNECTICUT	yes	yes	All centralized services for computer usage, analytical and telecommunications are charged back to each using agency based on usage.
DELAWARE	yes	yes	-
FLORIDA	yes	yes	Data Processing: based on data center cost allocation Telecommunications: centrally done by Division of Communication.
GEORGIA	yes	yes	A computer billing system is used for machine time, network usage, storage and personnel expenses.
HAWAII	yes	no	Mainly for services involving federal financial participation.
IDAHO	yes	yes	Data Processing: Central Data Processing operation charges for mainframe use Telecommunications: General Services charges for voice related use.
ILLINOIS	yes	yes	Two revolving funds based on cost center charge-backs.
INDIANA	yes	yes	Data Processing: monthly bill for hardware usage and people. Telecommunications: pass through charges and set rates.
IOWA	yes	yes	-
KANSAS	yes	no	Data Processing: data capture is accomplished by a product, KOMAND and rates are set using a complex cost allocation process. Telecommunications: rates are set through the same process. Data capture is done with custom built software.
KENTUCKY	yes	yes	Totally funded by agency receipts derived through application of a federally approved cost allocation plan based utilization.
LOUISIANA	no	yes	Telecommunications: telecommunications is 100% revolving fund. The Office of Telecommunications Management establishes lines of service, sets rates for these services, and sells services to other departments.
MAINE	yes	yes	The burden of funding the management of information resources is and will continue to be primarily an internally funded mechanism where agencies are billed for services rendered to them, be it by our central computer agency (Bureau of Data Processing) or the central state data transmission agency (Telecommunications). General fund appropriations are quickly diminishing, especially in tight economic times, and the shift has been to equally distribute costs via service agency costs' structures.
MARYLAND	yes	yes	Using agencies are charged for specific services provided.
MASSACHUSETTS	yes	yes	-
MICHIGAN	no	yes	Telecommunications: monthly telecommunications bill provided to each customer.
MINNESOTA	yes	yes	InterTechnologies Group's responsibility.
MISSISSIPPI	yes	yes	We charge for: mainframe processor use, storage, printing, telecommunications use, class tuition, and consulting services.
MISSOURI	yes	yes	-
MONTANA	yes	no	All costs recovered through charges to user agencies.
NEBRASKA	yes	no	-
NEVADA	yes	no	Data Processing: user and machine charges. Data center charged separate from systems & programming.
NEW HAMPSHIRE	no	no	-
NEW JERSEY	yes	yes	Cost pools are developed for specific units of resource used. These pools are converted to rates which are then charged to all customers equally.
NEW MEXICO	yes	yes	-
NEW YORK	yes	yes	-
NORTH CAROLINA	yes	yes	Pro rated usage of resources.

	Charge Back Procedure for Data Processing	Charge Back Procedure for Telecommunications	If Yes, Describe
NORTH DAKOTA	yes	yes	-
OHIO	yes	yes	All services charged back. Rates set annually based on previous years' costs. Cost recovery/rate setting studies for telecommunications and data processing conducted annually by Griffith & Associates.
OKLAHOMA	yes	yes	-
OREGON	yes	yes	Data Processing: computer centers bill agency/customers for services provided. Telecommunications: Department of General Services bills for telecommunication services.
PENNSYLVANIA	yes	yes	Administrative Circular establishing charges for data processing and data communications.
RHODE ISLAND	yes	yes	Data lines only.
SOUTH CAROLINA	yes	yes	-
SOUTH DAKOTA	yes	yes	-
TENNESSEE	yes	yes	Rate.
TEXAS	yes	yes	Full cost recovery.
UTAH	yes	yes	-
VERMONT	yes	yes	Data Processing: by resources. Telecommunications: by resources.
VIRGINIA	yes	yes	-
WASHINGTON	yes	yes	Both systems are based on types of usage with either an established rate or established markup of costs.
WEST VIRGINIA	yes	yes	-
WISCONSIN	yes	yes	Rate structures including pass-through costs with, in some cases, an amount built into rate for equipment replacement.
WYOMING	yes	yes	-
DISTRICT OF COLUMBIA	yes	yes	The mainframe used in the Office of Financial Information Services charges.

TABLE 2.4

State Agency That Has Responsibility For the Execution of Information Technology Procurement

	State Agency
ALABAMA	Purchasing Division
ALASKA	Each department /agency for the majority. The Division of General Services executes procurement above the agencies delegated authority
ARIZONA	Department of Administration (Purchasing Office - procurement approval)
ARKANSAS	Individual agency
CALIFORNIA	If less than $100,000, then looked at by agencies; if more than $100,00, then looked at by the Department of General Services
COLORADO	Individual agencies and Division of Purchasing
CONNECTICUT	Purchasing Bureau, Department of Administrative Services
DELAWARE	Agencies create purchase order and provide reasons for their need for the items involved.
FLORIDA	Agencies
GEORGIA	Purchasing Division, Department of Administrative Services
HAWAII	Normally the requesting agency of department
IDAHO	Individual agencies
ILLINOIS	Department of Central Management Services
INDIANA	Procurement Division of Department of Administration
IOWA	Department of General Services
KANSAS	Department of Purchases
KENTUCKY	Division of Purchases, Department of Administration
LOUISIANA	State Purchasing issues invitations to bid drafted by departments
MAINE	The procuring agency after approval
MARYLAND	Individual procuring agency
MASSACHUSETTS	Agencies sign contracts
MICHIGAN	Department of Management & Budget
MINNESOTA	Agency requiring the services
MISSISSIPPI	Central Data Processing Authority
MISSOURI	Division of Purchasing, Office of Administration
MONTANA	Department of Administration, Procurement and Printing Division
NEBRASKA	Administrative Services
NEVADA	Purchasing
NEW HAMPSHIRE	Agencies for purchasing; Division of Information Services reviews paperwork
NEW JERSEY	Division of Purchase & Property, Treasury Department
NEW MEXICO	Procuring agency
NEW YORK	Operating agency
NORTH CAROLINA	Purchase and Contract Division or delegation to agency procurement office
NORTH DAKOTA	Information Services Division
OHIO	State Purchasing - Computer service has "pre-approve" authority & develops specifications in Department of Administrative Services/Division of Office Services
OKLAHOMA	Office of Public Affairs
OREGON	Department of General Services
PENNSYLVANIA	Department of General Services
RHODE ISLAND	Central Purchasing
SOUTH CAROLINA	Office of Materials Management
SOUTH DAKOTA	Office of Purchasing
TENNESSEE	Department of General Service
TEXAS	Individual agency - services & software State Purchasing & General Services Commission - hardware
UTAH	Individual agencies execute through purchasing office.
VERMONT	Purchasing Division, General Services Department.
VIRGINIA	Less than $15,000 - each agency; greater then $15,000 - Department of Information Technology
WASHINGTON	Individual agencies
WEST VIRGINIA	Individual agencies
WISCONSIN	Agencies, usually. Statewide procurement can be done by Department of Administration.
WYOMING	Purchasing Department
DISTRICT OF COLUMBIA	Materiel Management Administration, a sister administration in the Department of Administrative Services

TABLE 2.5
State Agency That Has Review and Approval Authority Over Information Technology Procurement

	State Agency
ALABAMA	Data Systems Management Division
ALASKA	Each department/agency has a certain amount of delegated authority
ARIZONA	Department of Administration (Data Management Division - technical approval)
ARKANSAS	Arkansas Department of Computer Services
CALIFORNIA	Department of General Services
COLORADO	Each individual agency
CONNECTICUT	The Office of Policy & Management, Office of Information and Technology
DELAWARE	Office of Information Systems
FLORIDA	Division of Purchasing, Department of General Services and Information Resource Commission for large procurement
GEORGIA	Georgia Electronic Data Processing Review Committee
HAWAII	Department of Budget & Finance
IDAHO	Information Resource Management
ILLINOIS	Department of Central Management Services
INDIANA	Department of Administration
IOWA	Department of General Services
KANSAS	Bureau of Information Resource Management
KENTUCKY	Department of Information Systems
LOUISIANA	State Purchasing with advice of multi-agency procurement support team
MAINE	Office of Information Services
MARYLAND	Department of Budget & Fiscal Planning
MASSACHUSETTS	Department of Procurement & General Services
MICHIGAN	Department of Management & Budget
MINNESOTA	Materials Management Division, Department of Administration
MISSISSIPPI	Central Data Processing Authority
MISSOURI	Division of Data Processing & Telecommunications, Office of Administration
MONTANA	Information Services Division, Department of Administration
NEBRASKA	Central Data Processing
NEVADA	Purchasing/Pre-Audit/Department of Data Processing
NEW HAMPSHIRE	Department of Administrative Services
NEW JERSEY	Responsibility is shared by Office of Telecommunications & Information Systems with General Service Administration and Office of Management and Budget
NEW MEXICO	Information Systems Council Administration attached to General Services Department
NEW YORK	Office of the State Comptroller has final approval authority. Intermediate levels of approval involve the Budget Division, Attorney General and sometimes the Office of General Services.
NORTH CAROLINA	Purchase and Contact Division (approval), State Information Processing Services (review)
NORTH DAKOTA	Information Services Division
OHIO	Division of Computer & Information System Services, Department of Administrative Services
OKLAHOMA	Information Services Division, Office of State Finance
OREGON	Information Systems Division, Executive Department
PENNSYLVANIA	Office of Administration
RHODE ISLAND	Office of Information Processing
SOUTH CAROLINA	Office of Materials Management, Division of General Services
SOUTH DAKOTA	Information Services, Bureau of Administration
TENNESSEE	Department of Finance - Technical Department of General Services - Procurement
TEXAS	Department of Information Resource
UTAH	Information Technology Review Committee, a subagency of Division of Information Technology Services
VERMONT	General Services Department
VIRGINIA	Department of Information Technology
WASHINGTON	Policy and Planning Division under authority of the Information Services Board, Department of Information Services
WEST VIRGINIA	Information Services & Communication
WISCONSIN	Department of Administration
WYOMING	Computer Technology Division
DISTRICT OF COLUMBIA	Information Resources Management Administration

TABLE 2.6
Methods of Information Technology Procurement

	Data Processing					Telecommunications				
	Invitation for Bid	Request for Proposal	Request for Information	Emergency Procurement	Sole Source	Invitation for Bid	Request for Proposal	Request for Information	Emergency Procurement	Sole Source
ALABAMA	xxx	xxx	-	xxx	xxx	xxx	xxx	-	xxx	xxx
ALASKA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
ARIZONA	xxx	xxx	-	xxx	xxx	xxx	xxx	-	xxx	xxx
ARKANSAS	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
CALIFORNIA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
COLORADO	-	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
CONNECTICUT	-	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
DELAWARE	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
FLORIDA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
GEORGIA	xxx	xxx	-	xxx	xxx	xxx	xxx	-	xxx	xxx
HAWAII	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
IDAHO	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
ILLINOIS	-	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
INDIANA	-	xxx	-	-	-	-	xxx	-	-	-
IOWA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
KANSAS	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
KENTUCKY	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
LOUISIANA	xxx	-		-	xxx	xxx	xxx	-	xxx	-
MAINE	-	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
MARYLAND	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
MASSACHUSETTS	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
MICHIGAN	-	-	xxx	-	xxx	-	-	xxx	-	xxx
MINNESOTA	-	xxx	xxx	-	xxx	xxx	xxx	xxx	xxx	xxx
MISSISSIPPI	-	xxx	xxx	-	-	-	xxx	xxx	-	xxx
MISSOURI	xxx	xxx	-	xxx	xxx	xxx	xxx	-	xxx	xxx
MONTANA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NEBRASKA	xxx	xxx	xxx	xxx	xxx	-	-	-	-	-
NEVADA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NEW HAMPSHIRE	-	xxx	xxx	-	xxx	-	-	-	-	-
NEW JERSEY	-	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
NEW MEXICO	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NEW YORK	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
NORTH CAROLINA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NORTH DAKOTA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
OHIO	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx	-	xxx
OKLAHOMA	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx	-	xxx
OREGON	xxx	xxx	xxx	-	xxx	-	-	-	-	-
PENNSYLVANIA	xxx	xxx	xxx	xxx	xxx	-	-	-	-	-
RHODE ISLAND	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
SOUTH CAROLINA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
SOUTH DAKOTA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
TENNESSEE	xxx	xxx	-	xxx	xxx	xxx	xxx	-	xxx	xxx
TEXAS	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
UTAH	-	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
VERMONT	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
VIRGINIA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
WASHINGTON	xxx	xxx	-	xxx	xxx	xxx	xxx	-	xxx	xxx
WEST VIRGINIA	-	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx
WISCONSIN	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
WYOMING	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
DISTRICT OF COLUMBIA	xxx	xxx	xxx	xxx	xxx	-	xxx	-	xxx	xxx

TABLE 2.7
Primary Method of Information Technology Procurement by State

	Invitation for Bid	Request for Proposal	Sole Source	Other (Specified)
ALABAMA	xxx	-	-	-
ALASKA	-	xxx	-	-
ARIZONA	xxx	-	-	-
ARKANSAS	xxx	xxx	-	-
CALIFORNIA	-	xxx	-	-
COLORADO	-	xxx	-	-
CONNECTICUT	-	xxx	-	-
DELAWARE	-	-	-	Agency requests
FLORIDA	-	-	xxx	-
GEORGIA	-	-	-	-
HAWAII	xxx	-	-	-
IDAHO	-	xxx	-	-
ILLINOIS	-	xxx	-	-
INDIANA	-	xxx	-	-
IOWA	xxx	xxx	-	-
KANSAS	-	xxx	-	State Contract
KENTUCKY	xxx	-	-	-
LOUISIANA	xxx	-	-	-
MAINE	-	xxx	-	-
MARYLAND	-	xxx	-	-
MASSACHUSETTS	-	xxx	-	-
MICHIGAN	-	-	-	Request for Quotation contracts
MINNESOTA	-	xxx	-	
MISSISSIPPI	-	xxx	-	-
MISSOURI	xxx	-	-	-
MONTANA	xxx	xxx	-	-
NEBRASKA	-	-	-	Request for Bids
NEVADA	-	xxx	-	-
NEW HAMPSHIRE	-	xxx	-	-
NEW JERSEY	-	xxx	-	-
NEW MEXICO	-	xxx	-	-
NEW YORK	-	xxx	-	-
NORTH CAROLINA	xxx-new resources	-	xxx-upgrades	-
NORTH DAKOTA	-	xxx	-	-
OHIO	xxx	-	-	term contract-64%
OKLAHOMA	xxx	-	-	-
OREGON	xxx	xxx	-	-
PENNSYLVANIA	xxx	xxx	-	-
RHODE ISLAND	-	xxx	-	-
SOUTH CAROLINA	-	xxx	-	-
SOUTH DAKOTA	xxx	xxx	-	-
TENNESSEE	xxx-equipment	xxx-services	-	
TEXAS	-	xxx	-	-
UTAH	-	xxx	-	-
VERMONT	-	xxx	-	-
VIRGINIA	xxx	xxx(secondary)	-	
WASHINGTON	-	xxx	-	-
WEST VIRGINIA	-	xxx	-	-
WISCONSIN	-	-	-	Request for Bids
WYOMING	xxx(minor)	xxx(major)	-	
DISTRICT OF COLUMBIA	-	xxx	-	-

Note: No states listed Request For Information or Emergency Procurement as a primary method.

TABLE 2.8
The Use of State or Term Contracts for Information Technology Procurement

	Use	Products Purchased on State or Term Contracts
ALABAMA	Yes:	PCs, some software, terminal, modems, wiring.
ALASKA	-	
ARIZONA	Yes:	mainframe peripherals, microcomputer products, minicomputer peripherals - microfiche, supplies
ARKANSAS	Yes:	all data processing and telecommunication acquisitions
CALIFORNIA	Yes:	master contract for 3270 terminals, contollers, modems; state computer store
COLORADO	Yes:	primarily PCs and related software
CONNECTICUT	-	
DELAWARE	Yes:	hardware, software, contractual support (progamming as well as education)
FLORIDA	Yes:	mainframes, minicomputers, microcomputers, software, terminals, controllers
GEORGIA	Yes:	software development, personnel, equipment
HAWAII	Yes:	microcomputers, terminals, modems, printers, control units, DASD, fax machines
IDAHO	Yes:	microcomputers, fax, copiers
ILLINOIS	Yes:	DASD , microcomputer master contracts, LANs, terminals, maintenance, telecom equipment
INDIANA	Yes:	100%
IOWA	Yes:	PCs, printers, PC software, DASD, 3270 devices, contract programming, supplies
KANSAS	Yes:	PCs, PC peripherals, PC software; computer media consumables; fax; phones; call processing systems; computer programming and analysis; modems; terminals, controllers, & printers for SNA networks
KENTUCKY	Yes:	Communication and computer products and services not covered by GSA contracts
LOUISIANA	Yes:	microcomputers
MAINE	Yes	
MARYLAND	Yes:	microcomputers
MASSACHUSETTS	Yes:	PCs, modems, programmers, LAN operations systems and hardware, cabling
MICHIGAN	Yes:	networks, modems, voicemail, PBXs, fax
MINNESOTA	Yes:	PCs, minicomputers
MISSISSIPPI	Yes:	PCs, software, peripheral on express products; support for telecommunication
MISSOURI	-	
MONTANA	Yes:	microcomputer hardware, primarily
NEBRASKA	Yes	
NEVADA	Yes:	varies - full scope of data processing services
NEW HAMPSHIRE	Yes:	PCs primarily
NEW JERSEY	Yes:	hardware, outside analysts and programmers (modified)
NEW MEXICO	-	
NEW YORK	Yes:	hardware and software
NORTH CAROLINA	Yes:	microcomputers, telecommunications devices
NORTH DAKOTA	Yes:	equipment
OHIO	Yes:	Federal GSA contracts become state term schedules and used for upgrades
OKLAHOMA	Yes:	PCs and their peripherals, supplies
OREGON	Yes:	Standard state boiler-plate terms and conditions used for all
PENNSYLVANIA	Yes:	PCs and peripherals, radios, telephones, key systems
RHODE ISLAND		Not for information technology procurement
SOUTH CAROLINA	Yes:	recurring hardware, software, & maintenance; expendables
SOUTH DAKOTA	Yes:	PCs, terminals, modems, & related equipment
TENNESSEE	Yes:	any product can be state or term
TEXAS	Yes:	hardware, some microcomputer software
UTAH	Yes:	through state store - bid winners sell products through store
VERMONT	Yes:	microcomputers, software
VIRGINIA	Yes:	PC hardware, software contracts, programming services
WASHINGTON	Yes:	PCs, printers, modems, PBXs, key systems, & others
WEST VIRGINIA	Yes:	terminials, PCs, printers, minicomputers, telecommuniation equipment, modems
WISCONSIN	Yes:	hardware, software, services
WYOMING	Yes:	microcomputer hardware & software
DISTRICT OF COLUMBIA	Yes:	microsystems & peripherals

Chapter Three
HUMAN RESOURCES

INFORMATION RESOURCE PERSONNEL ISSUES

Importance of Information Resource Management Personnel Issues

Respondents were ask to rank information resource management personnel issues on a scale from 1-4, where 1 is a low priority and 4 is a high priority (see Table 3.1). The rankings from highest to lowest are:

	Average
• Training	3.29
• Salary	3.22
• Classification/Career Paths	3.06
• Recruitment	2.94
• Organization/Planning	2.76
• Workload	2.54
• Politics/Environment	2.26

Training and salary were ranked as the two most important information resource management personnel issues. Classification/career path, recruitment and organization/planning were ranked in the middle while workload and politics/environment were ranked as the two lowest personnel issues.

Arkansas, California, Kentucky, Michigan and Nevada specified other information resource management personnel issues that are important. The issues are quality management, ethics, retention-competition with private sector employees, privatization, and statewide coordination/standards, respectively. Each personnel issue specified by these states was rated a four (high priority) except ethics which was rated a three.

INFORMATION RESOURCE JOB CLASSIFICATIONS

Information Resource Titles Created or Eliminated Since January 1990

States were asked to identify information resource management titles (both data processing and telecommunications) which had been created or eliminated since January 1990. A total of 20 states (39%) reported either a newly created position or a recently eliminated position in information resources.

While 39% of the states indicated activity in this area, other states recognized the need for a complete review of job classifications to better represent the work within the information systems area. **Alabama, Kentucky, Ohio, Utah, and West Virginia** indicated they were either currently reviewing or had just completed a restructuring of information resource management job titles. **Kentucky** has a report available on the restructuring of job titles.

The survey results show that there has been more activity in creating positions than in eliminating positions. The types of positions created in data processing or telecommunication may be categorized as either managerial or technical.

A total of 13 states reported either a newly created or a recently eliminated position in data processing. These states identified the creation of 27 new positions and the elimination of six positions (see Table 3.2).

Seven states reported either newly created positions or recently eliminated positions in telecommunications. These states identified the creation of 14 positions and the elimination of one position (see Table 3.2).

INFORMATION RESOURCE EMPLOYEE RECRUITMENT

Sources of Employees for Information Resources

State information resource management departments draw employees from a number of sources with the most commonly cited being four-year universities and colleges, industry, and other state agencies. Forty-three states (84%) recruit from each of these three categories. In the two remaining categories, vocational/technical schools and community colleges, 27 states listed each of the categories as sources of employees. Table 3.3 lists the sources of information resource employees for each state.

A significant number - 19 states or 37% - used all five categories for sources. A few states specified other sources for recruiting. **Alaska, Maryland,** and the **District of Columbia** recruit from other government entities other than state agencies. **Alabama** and **Maine** rely in part on military sources. **New Jersey** also uses a minority training program to recruit employees for information resources.

Innovative Recruiting Techniques

States reported a number of innovative techniques for recruitment of information systems personnel including university or job fairs, internships/traineeships, newspaper advertisements, geographic location, and national publications (see Table 3.4).

Massachusetts and Maine have used similar techniques but in two different ways. In **Massachusetts**, the legislature has passed a technical law which removes professional electronic data processing jobs from the General Salary Schedule. In **Maine**, the salaries for the hard-to-recruit job classifications have a stipend in order to more effectively compete with the private sector. The end result is that states are willing to pay more money in salary in order to attract qualified workers to the public sector. **Arkansas** reported using job security, flex-time, relaxed work environment, and relaxed dress codes to recruit qualified personnel.

TRAINING FOR INFORMATION RESOURCES

Funding for Centralized Information Systems Training

Of the 50 states and the District of Columbia, 46 indicate that they provide training for information systems personnel. The majority of responses (58%) reported using a charge-back system to fund their training (see Table 3.5). In **North Carolina**, for example, training programs are 100% receipt funded and a course can be created on demand from students who want training. A price will be set based on equipment, teaching and enrollment. The course will be given and the bill paid by the agency who sends the student.

General fund appropriations were the second most common way that training is funded for information systems personnel, accounting for 13 percent of the total. Revolving fund and overhead function account for eight percent each.

Several states use more than one method to fund training programs. In **Iowa**, both a charge-back and general fund appropriation is used. **Tennessee** uses revolving fund and chargeback.

Training and Curriculum Under Information Resource Agencies

Training was listed earlier as the most important information resource management personnel issue. States' information resource organizations were asked to indicate if they provide training and curriculum for various job classifications. The following shows the number of states whose information resource organization provides training and the number that have an established curriculum.

Information Resource Centralized Training and Established Curriculum

Job Classification	States With Training	States With Established Curriculum
Applications Programmer	45	24
Microcomputer end user	42	26
Systems Analyst	40	20
Database manager	38	15
Information systems project manager	36	13
Systems programmer	35	14
Operations staff	32	14
Telecommunications specialist	28	10
Non-data processing executive	27	9
Information systems executive	26	7
Information systems planner	24	19
Data entry operator	23	7

Each state's response is located in Table 3.6.

Forty-six states (90%) provide at least some training under the responsibility of a state information resource agency. Fifteen states (29%) provide training for all of the listed job classifications. Five respondents - **Colorado, Idaho, Utah, Wisconsin,** and the **District of Columbia** - do not have training as a function of information resource management.

Job Classifications with Training

Training was used most often with the positions of applications programmers, microcomputer end users, and systems analysts. More states had training programs for applications programmers than for any other classification - 88% or 45 states. Microcomputer end users were the second largest group to benefit from states with information resource management training. About 82% (42 states) have training programs for this classification. The third most wide-spread training program was for systems analysts. Forty states reported that training systems analysts was among their information resource management functions.

Training with an Established Curriculum

Although most states have some type of training within information resource management, not all of those states have an established curriculum. Again the classifications that were listed most often as having an established curriculum were microcomputer end users, applications programmers, and systems analysts. Microcomputer end users were the most prevalent in having an established curriculum. Just over half of all states reported having a curriculum for microcomputer end users. Applications programmers had the second highest number of states with curriculums in 24 states, and systems analysts were third with established curriculum in 20 states. **Washington** noted that it has training and curriculum for mainframe end users.

Delivery Methods of Information Systems Training

A number of delivery methods are used for information systems training (see Table 3.7). The states were asked to indicate which of 10 delivery methods they used.

States Using Various Delivery Methods for Information Systems Training

Delivery Method	Number of States
Vendor supplied	49
Instructor-led (lab environment)	44
Instructor-led (lecture/workshop only)	42
Video courses	38
Computer based training (microcomputer)	37
Computer based training (mainframe)	26
Audio courses	24
University supplied	22
Computer based training (distributed systems)	16
Teleconference or video conference	14

Colorado and the **District of Columbia** responded that they had no central training.

All 49 states that provide training use vendors. Instructor-led training methods were the two methods most often used following vendor supplied. Forty-four states use instructor-led courses set in a lab environment, and 42 states use instructor-led courses set in a lecture or workshop only setting.

Although community college supplied training was not included in the survey list, three states - **Hawaii, Maryland,** and **Mississippi** - specified community colleges when asked to list any other methods. Four states also listed specialized training methods. **Hawaii** and **North Carolina** noted that they use specialized or custom designed training. **Illinois** included training by consultants, and **Oklahoma** uses self-designed training. One other method of training was specified by **Virginia** which uses a local trainers consortium.

For a list of state training contacts, see the roster at the end of Chapter One.

TABLE 3.1
Importance of Information Resource Management Personnel Issues as Ranked by the States

1 is a Low Priority and 4 is a High Priority

	Salaries	Training	Recruitment	Organization/ Planning	Classification/ Career Paths	Workload	Politics/ Environment
ALABAMA	3	4	2	3	3	1	2
ALASKA	3	4	4	1	3	3	1
ARIZONA	4	4	3	4	2	3	4
ARKANSAS	4	3	4	3	4	1	1
CALIFORNIA	2	3	3	2	2	3	2
COLORADO	4	4	2	4	3	1	1
CONNECTICUT	4	4	4	1	3	4	3
DELAWARE	4	4	4	2	4	4	2
FLORIDA	4	4	1	2	3	3	4
GEORGIA	4	4	4	4	4	4	2
HAWAII	3	3	4	4	4	3	3
IDAHO	2	3	3	4	2	2	1
ILLINOIS	2	4	4	3	2	2	2
INDIANA	4	3	2	2	4	2	2
IOWA	3	4	2	2	3	3	3
KANSAS	4	3	4	2	4	1	4
KENTUCKY	4	4	3	2	4	4	1
LOUISIANA	3	3	2	4	3	-	2
MAINE	2	3	2	4	2	3	3
MARYLAND	4	3	2	3	2	2	2
MASSACHUSETTS	4	3	2	4	4	3	3
MICHIGAN	3	3	2	2	4	4	-
MINNESOTA	4	4	4	4	4	3	2
MISSISSIPPI	3	4	4	3	4	2	4
MISSOURI	4	4	3	2	4	2	1
MONTANA	1	1	1	3	2	1	1
NEBRASKA	4	4	4	3	4	2	1
NEVADA	4	3	3	4	3	4	4
NEW HAMPSHIRE	2	1	2	4	3	4	1
NEW JERSEY	4	4	3	3	4	4	3
NEW MEXICO	4	4	4	3	3	2	2
NEW YORK	2	4	3	2	4	3	3
NORTH CAROLINA	4	4	2	3	3	2	3
NORTH DAKOTA	1	2	2	2	2	1	3
OHIO	2	2	2	3	3	3	3
OKLAHOMA	1	4	4	3	2	3	2
OREGON	1	3	4	2	2	2	2
PENNSYLVANIA	4	3	4	2	3	2	3
RHODE ISLAND	4	2	2	4	1	4	1
SOUTH CAROLINA	3	2	3	2	4	1	1
SOUTH DAKOTA	3	2	4	2	2	4	2
TENNESSEE	2	4	3	2	4	1	1
TEXAS	3	4	3	3	2	3	3
UTAH	3	4	1	1	3	3	1
VERMONT	3	4	1	2	2	2	3
VIRGINIA	4	2	4	2	3	1	4
WASHINGTON	4	4	4	3	3	3	3
WEST VIRGINIA	4	2	2	3	3	4	3
WISCONSIN	4	4	4	2	3	1	1
WYOMING	4	2	3	4	4	2	2
DISTRICT OF COLUMBIA	4	4	4	3	3	2	2

TABLE 3.2
Titles Created and Eliminated in Data Processing Since January 1990

	Titles Created in Data Processing	Titles Eliminated in Data Processing
ALABAMA	Student Programmer Systems Specialist ManagerData	Programmer Trainee Processing Procurement Officer
ARKANSAS	Applications Development Manager Applications Development Specialist Programmer Analyst/Staff Specialist	None
CALIFORNIA	Information Services Technician & Analyst	None
COLORADO	None	Data Processing Manager III
IDAHO	Communication Resource Coordinator	None
KANSAS	Applications Programmer/Analyst Project Manager Applications Programmer/Analyst Staff Specialist Systems Analysis Project Manager Systems Analysis Staff Specialist	None
MONTANA	Manager, Computing Policy & Development Manager, Office of Policy, Research & Development Manager, Financial Services	None
NORTH CAROLINA	Data Base Specialist Data Processing Staff Specialist	Information Center Consultant Department of Data Processing, Manager
SOUTH DAKOTA	Microcomputer Support Specialist	None
TEXAS	Data Base Administrator	None
WASHINGTON	Senior Planning Consultant Senior Account Executive Assistant Director-Department of Information Services	None
WISCONSIN	Data System Administrator	None
WYOMING	Computer Software Specialist MIS Equipment Specialist MIS Equipment Technician Senior MIS Analyst Business Recovery Planner	None

Titles Created and Eliminated in Telecommunications Since January 1990

	Titles Created in Telecommunications	Titles Eliminated in Telecommunications
ARKANSAS	Customer Service Manager Telecommunications Service Manager	None
MAINE	Customer Support and Training Supervisor Network Operation Supervisor Network Operations Manager	None
MONTANA	Manager, Telecommunications Policy, Research, & Development	None
NEVADA	Information Manager, Communications	None
NORTH CAROLINA	Network Control Technician I Network Control Supervisor I Network Control Supervisor II Computer Network Manager III	None
TEXAS	Telecommunications Specialist	None
DISTRICT OF COLUMBIA	Chief, Telecommunications	Chief, Communications

TABLE 3.3
Primary Sources of Information Resource Employees

	Vocational/ Technical Schools	Community/ Junior Colleges	Four Year Universities/ Colleges	Industry	Other State Agencies
ALABAMA	xxx	xxx	xxx	xxx	xxx
ALASKA	-	-	-	-	xxx
ARIZONA	-	xxx	xxx	xxx	-
ARKANSAS	-	-	xxx	xxx	-
CALIFORNIA	-	-	xxx	xxx	xxx
COLORADO	-	xxx	xxx	xxx	xxx
CONNECTICUT	xxx	xxx	xxx	xxx	xxx
DELAWARE	xxx	xxx	xxx	xxx	xxx
FLORIDA	xxx	-	xxx	-	xxx
GEORGIA	xxx	xxx	xxx	xxx	xxx
HAWAII	xxx	xxx	xxx	xxx	xxx
IDAHO	-	-	xxx	xxx	-
ILLINOIS	xxx	xxx	xxx	xxx	xxx
INDIANA	-	-	-	xxx	xxx
IOWA	xxx	xxx	xxx	xxx	xxx
KANSAS	xxx	-	xxx	xxx	xxx
KENTUCKY	xxx	xxx	xxx	xxx	xxx
LOUISIANA	-	-	xxx	-	xxx
MAINE	-	-	xxx	xxx	xxx
MARYLAND	-	xxx	xxx	xxx	xxx
MASSACHUSETTS	-	-	-	xxx	xxx
MICHIGAN	-	xxx	xxx	xxx	-
MINNESOTA	-	-	xxx	xxx	xxx
MISSISSIPPI	-	-	xxx	xxx	xxx
MISSOURI	-	-	xxx	-	-
MONTANA	xxx	xxx	xxx	xxx	xxx
NEBRASKA	xxx	xxx	-	-	-
NEVADA	xxx	xxx	xxx	xxx	xxx
NEW HAMPSHIRE	-	-	-	xxx	xxx
NEW JERSEY	xxx	xxx	xxx	xxx	xxx
NEW MEXICO	-	-	-	xxx	xxx
NEW YORK	-	xxx	xxx	xxx	xxx
NORTH CAROLINA	xxx	xxx	xxx	xxx	xxx
NORTH DAKOTA	xxx	xxx	xxx	xxx	xxx
OHIO	xxx	xxx	xxx	xxx	xxx
OKLAHOMA	xxx	xxx	xxx	xxx	xxx
OREGON	xxx	xxx	xxx	xxx	xxx
PENNSYLVANIA	xxx	xxx	xxx	xxx	xxx
RHODE ISLAND	-	-	xxx	xxx	xxx
SOUTH CAROLINA	xxx	xxx	xxx	xxx	xxx
SOUTH DAKOTA	xxx	-	xxx	-	-
TENNESSEE	-	-	xxx	xxx	xxx
TEXAS	-	-	xxx	xxx	xxx
UTAH	xxx	-	-	xxx	xxx
VERMONT	xxx	xxx	xxx	-	xxx
VIRGINIA	xxx	xxx	xxx	xxx	xxx
WASHINGTON	-	-	-	xxx	xxx
WEST VIRGINIA	-	-	xxx	xxx	xxx
WISCONSIN	xxx	-	xxx	xxx	xxx
WYOMING	xxx	xxx	xxx	-	-
DISTRICT OF COLUMBIA	-	-	xxx	xxx	xxx

TABLE 3.4
Innovative Techniques Used to Recruit Qualified Information Resource Professionals

	Techniques
ALABAMA	Stable environment with excellent salary
ARIZONA	Job fairs
ARKANSAS	Provide job security
	Allow flex-time
	Provide a relaxed work environment
	Allow relaxed dress code
CALIFORNIA	On campus interview testing for some agencies
CONNECTICUT	35 hour work week
	Paid medical
	Good retirement benefits
	Excellent training program
	Latest technological tools
FLORIDA	In-house training for entry level positions
	Training requirements by job
	Job announcements in professional journals and national publications
GEORGIA	Job placement seminars at local colleges and use the State Merit System for recruitment.
HAWAII	Hiring above the minimum
	Striving to make state government the leader in telecommunications and information technology in Hawaii.
IDAHO	Boise area - advertise in northwest about quality of area, family quality of life
ILLINOIS	Career days
	Referrals
	Postings
MAINE	The salaries of hard to recruit job classifications have a stipend in order to more effectively compete with the private sector
MARYLAND	Newspaper advertisements and notices to over 530 community and professional groups. Maintains lists of inquiries.
	Private industry downsizing increases attractiveness of state jobs
MASSACHUSETTS	Massachusetts has passed a technical pay law which removes professional electronic data processing jobs from the General Salary Schedule
MISSOURI	Use of internships
	Participation in college sponsored career fairs
MONTANA	Use of local and state wide newspapers, university visits, nation-wide publications, target on potential (i.e., university recruitment, grow-your-own), attraction of environment (high tech, low population, non-salary issues)
NEVADA	Use of networking to find qualified candidates
NEW JERSEY	The Minority Opportunity Skills Training (MOST) program acts as an intern development course, taking, on average, about two years to complete. Computer operators and entry level programmers come from this program. We also open the "programmer trainee" program to existing staff and other qualified state/non-state applicants.
NEW YORK	There is no centralized recruitment technique. Each agency is responsible for its own staff recruitment. Use of traineeships, especially for programmers is widespread
NORTH CAROLINA	Advertising in major newspapers
NORTH DAKOTA	Newspapers
	Job services
	Visit colleges
OHIO	With upgraded salaries, good benefits, and numerous colleges/universities in the area, recruitment is not a problem.
	Union regulations and hiring freezes cause significant staffing problems
OKLAHOMA	Merit system announcements
OREGON	Job announcements
	Newspaper advertising
	Prequalification lists
PENNSYLVANIA	Computer intern program - hiring third year college students with computer science major for internship with commitment for position after graduation
SOUTH CAROLINA	Advertisements
	Referrals
UTAH	There seems to be a constant supply of qualified people mainly from private sector - due to lay offs
VIRGINIA	Public broadcast and journals
WEST VIRGINIA	Standard Civil Service tests and recruiting policies
WISCONSIN	At lower classification levels, the state does continuous recruitment and maintains a standing register
WYOMING	Emphasize advantages to living in Wyoming - tax base, quality of life

TABLE 3.5
Funding for Centralized Information Systems Training Division

	Type of Funding
ALABAMA	Revolving fund
ALASKA	Funded primarily through charge-back - no clearly defined training division within the centralized information systems division. The majority of information systems training is coordinated through the state's centralized personnel division and funded through full charge-back
ARIZONA	Funded via charge-back system
ARKANSAS	Charge-back
CALIFORNIA	Fee for service
CONNECTICUT	Funded through charge-back
DELAWARE	Appropriation
FLORIDA	Personnel allocation fee and general revenue
GEORGIA	Partial charge-back is used, but different funding from parent department agency is the primary method
HAWAII	General fund appropriation
IDAHO	No training division - information resource management coordinates training via request for proposals to private sector, individual agencies with in-house trainers and special training functions. Agencies pay direct
ILLINOIS	Charge-back
INDIANA	No specific appropriation for training alone - monies for training are returned to agency in next budget year. Micro training is billed to clients at a minimal fee
IOWA	Both charge-back and general fund appropriations are used
KANSAS	This is primarily a coordination effort to contract for joint training needs by Division of Information Systems and Communications and the agencies. It is funded through charge-back; indirectly for internal training and directly for training provided to other state agencies
KENTUCKY	Charge-back through cost recovery system
MAINE	Staff salaries and related expenses are paid by a general fund account. Training expenses including instructor fees, materials, lab equipment, special wiring, leased space and utilities are recovered by charge-backs to agencies via an internal revenue fund
MARYLAND	Reimbursed (charge-back) from agencies or individuals using training services
MASSACHUSETTS	Appropriation for base budget; charge-back for class materials and lectures
MICHIGAN	All training is provided by the Department of Civil Service
MINNESOTA	Charge-back
MISSISSIPPI	The central agency trains approximately 1,700 students per year. The Education Institute is funded through a charge-back system. Agencies are billed for tuition, lab, and material fees. Fees range from $100 to $1,200 per student per course depending on the length of the course and instructor source
MISSOURI	Charge-back
MONTANA	Revolving fund; costs are recovered through charge-back system
NEVADA	Overhead - charged in billing rate
NEW JERSEY	Revolving fund pays for all training of Office of Telecommunications and Information Systems employees. Training costs are added to all the cost pools as an indirect cost, based on projected use
NEW MEXICO	It is an overhead function included in our rates
NEW YORK	New York does not have a central training operation, however, the Governors's Office of Employee Relations and the Civil Service Department play coordinating roles
NORTH CAROLINA	100% receipt supported; will create courses on demand
OHIO	Most training is funded through charge-back
OKLAHOMA	Appropriation through the Information Services Division of the Office of State Finance
OREGON	Charge-back to agency participants. Also provide complimentary training and educational seminars via commercial vendors
PENNSYLVANIA	Charge-back by course
RHODE ISLAND	Charge-back
SOUTH CAROLINA	Appropriation; charges for service
SOUTH DAKOTA	Charge-back
TENNESSEE	Revolving fund; charge-back
TEXAS	Some training will be provided through charge-backs to agencies and a small amount will be provided through seed money
UTAH	Charge-back
VERMONT	Charge-back and subsidies
VIRGINIA	The training staff and budget is part of the agency's overhead and is funded through computer service and systems development rates
WASHINGTON	Charge-back
WEST VIRGINIA	Charge-back - all agencies are invited to send staff to training provided by Information Services & Communications or vendors. Agencies are charged vendor price plus 35% overhead cost
WISCONSIN	Training for information technology was provided by a central operation in the Department of Employment Relation and was a program revenue operation. It is being discontinued and agencies will work individually or together to get training services
WYOMING	Partly through charge-back and partly through overhead allocation to other cost centers
DISTRICT OF COLUMBIA	Training is done by individual departments with some shared use of training resources

TABLE 3.6
Training for Various Information Resource Management Job Classifications

ttt=training but no curriculum   ccc=training with curriculum

	Information Systems Executives	Non-Data Processing Executives	Systems Programmers	Applications Programmers	Data Base Administrators/Managers	Systems Analysts/ Designers	IS Project Managers/ Lead Analysts	IS Planners	Operation Staff	Data Entry Operators	Microcomputer End Users	Telecommunications Specialists
ALABAMA	ccc	ccc	ccc	ccc	ccc	ccc	ccc	ccc	ccc	ttt	ccc	ccc
ALASKA	-	-	ccc	ccc	ccc	-	-	-	ccc	ccc	ttt	ttt
ARIZONA	-	-	-	ccc	ccc	ccc	-	-	-	-	ccc	-
ARKANSAS	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ccc	ccc	ccc	ccc
CALIFORNIA	ttt	-	ttt	ttt	ttt	ttt	ttt	ttt	ttt	-	ttt	-
COLORADO	-	-	-	-	-	-	-	-	-	-	-	-
CONNECTICUT	ccc	ccc	ccc	ccc	ccc	ccc	ccc	-	-	-	ttt	ccc
DELAWARE	-	-	-	ttt	-	-	-	-	-	-	ccc	-
FLORIDA	ccc	ccc	ttt	ttt	ttt	ttt	ttt	ccc	ttt	ttt	ccc	ttt
GEORGIA	-	-	ccc	ccc	ccc	ccc	-	-	ccc	ccc	ccc	ccc
HAWAII	ttt	ttt	-	ccc	-	ccc	ccc	-	ccc	-	ccc	-
IDAHO	-	-	-	-	-	-	-	-	-	-	-	-
ILLINOIS	ttt	ttt	ccc	ccc	ttt	ttt	ttt	ttt	ttt	-	ccc	ttt
INDIANA	-	-	ccc	ccc	ttt	ccc	ttt	-	-	-	ccc	-
IOWA	-	-	-	ccc	-	ccc	-	-	-	-	ttt	-
KANSAS	-	-	ttt	ttt	ttt	ttt	ttt	-	ccc	-	-	-
KENTUCKY	-	-	-	ccc	ccc	ccc	ccc	-	ccc	-	-	-
LOUISIANA	-	-	-	-	-	-	-	-	-	-	ccc	-
MAINE	ttt	ttt	-	ttt	ttt	ttt	ttt	ttt	-	-	ccc	-
MARYLAND	ttt	ccc	ccc	ccc	ccc	ccc	ccc	ttt	ccc	-	ttt	ttt
MASSACHUSETTS	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	-	ttt	ttt
MICHIGAN	-	-	-	ccc	-	-	ccc	-	-	-	-	-
MINNESOTA	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt
MISSISSIPPI	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ccc	ttt
MISSOURI	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt
MONTANA	-	ccc	ttt	ccc	ccc	ccc	ccc	-	ttt	-	ccc	ttt
NEBRASKA	-	-	-	ccc	-	ccc	ccc	-	-	ccc	ccc	-
NEVADA	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ccc	ttt	ttt	ccc	ttt
NEW HAMPSHIRE	-	-	ttt	ttt	ttt	ttt	ttt	-	ttt	-	ccc	-
NEW JERSEY	-	-	ccc	ccc	ccc	ccc	ttt	-	ccc	-	-	-
NEW MEXICO	ccc	ccc	ccc	ccc	ccc	ccc	ccc	-	ccc	ccc	ccc	ccc
NEW YORK	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt
NORTH CAROLINA	ttt	ttt	ccc	ccc	ccc	ccc	ccc	ttt	ccc	ccc	ccc	ccc
NORTH DAKOTA	-	ttt	ttt	ccc	ttt	ccc	ttt	ttt	ccc	ttt	ttt	ttt
OHIO	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt
OKLAHOMA	ccc	ccc	ccc	ccc	ccc	ccc	-	-	ccc	ttt	ccc	ccc
OREGON	-	-	ttt	ttt	ttt	ttt	-	-	-	-	ttt	-
PENNSYLVANIA	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ccc	ttt
RHODE ISLAND	ttt	ttt	ttt	ccc	ttt	ccc	ttt	ttt	ttt	ttt	ttt	ttt
SOUTH CAROLINA	-	-	ccc	ccc	ccc	ccc	ccc	ccc	-	ccc	ccc	ccc
SOUTH DAKOTA	ttt	ttt	ccc	ccc	ccc	ccc	ccc	ttt	ccc	-	ccc	ttt
TENNESSEE	-	-	ttt	ccc	-	-	ttt	-	-	-	ccc	-
TEXAS	ccc	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ccc
UTAH	-	-	-	-	-	-	-	-	-	-	-	-
VERMONT	-	-	-	ttt	-	-	-	-	-	-	ccc	-
VIRGINIA	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt
WASHINGTON	ccc	ccc	ccc	ccc	ccc	ccc	ccc	ccc	-	-	ccc	ccc
WEST VIRGINIA	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ttt	ccc	ttt
WISCONSIN	-	-	-	-	-	-	-	-	-	-	-	-
WYOMING	-	-	-	ttt	ttt	ttt	-	-	ttt	ttt	ttt	-
DISTRICT OF COLUMBIA	-	-	-	-	-	-	-	-	-	-	-	-

TABLE 3.7
Delivery Methods for Information Systems Training

	Vendor Supplied	Instructor Led (Lecture/Workshop Only)	Instructor Led (Lab Environment)	Video Courses	Audio Courses	Computer Based Training (microcomputers)	Computer Based Training/Distributed Sys.)	Computer Based Training (Mainframes)	Teleconferencing or video conferencing	University Supplied
ALABAMA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx
ALASKA	xxx	xxx	xxx	xxx	-	xxx	-	xxx	-	xxx
ARIZONA	xxx	xxx	-	-	-	-	xxx	-	-	-
ARKANSAS	xxx	xxx	xxx	xxx	-	xxx	-	xxx	-	-
CALIFORNIA	xxx	xxx	xxx	-	-	-	-	-	-	-
COLORADO*	-	-	-	-	-	-	-	-	-	-
CONNECTICUT	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	-	xxx
DELAWARE	xxx	xxx	xxx	xxx	-	xxx	-	-	-	-
FLORIDA	xxx	xxx	-	xxx	-	-	-	-	-	xxx
GEORGIA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	-	-
HAWAII	xxx	xxx	xxx	xxx	-	xxx	xxx	xxx	xxx	xxx
IDAHO	xxx	-	xxx	-	-	xxx	-	-	xxx	xxx
ILLINOIS	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
INDIANA	xxx	xxx	xxx	xxx	-	xxx	-	xxx	-	xxx
IOWA	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx	-	xxx
KANSAS	xxx	-	xxx	xxx	xxx	xxx	-	xxx	-	-
KENTUCKY	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx
LOUISIANA	xxx	-	xxx	xxx	-	-	-	-	-	xxx
MAINE	xxx	xxx	xxx	xxx	-	-	-	xxx	xxx	xxx
MARYLAND	xxx	xxx	xxx	xxx	xxx	xxx	-	-	-	-
MASSACHUSETTS	xxx	xxx	xxx	-	-	-	-	-	-	-
MICHIGAN	xxx	-	-	-	-	-	-	-	-	-
MINNESOTA	xxx	-	xxx	-	-	xxx	-	-	-	-
MISSISSIPPI	xxx	xxx	xxx	-	-	xxx	-	xxx	-	-
MISSOURI	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	-	-
MONTANA	xxx	xxx	xxx	xxx	-	xxx	-	xxx	xxx	-
NEBRASKA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NEVADA	xxx	xxx	xxx	xxx	xxx	xxx	-	-	-	xxx
NEW HAMPSHIRE	xxx	xxx	xxx	xxx	-	xxx	-	-	-	-
NEW JERSEY	xxx	xxx	-	xxx	xxx	xxx	-	xxx	-	xxx
NEW MEXICO	xxx	xxx	xxx	xxx	xxx	xxx	-	-	-	-
NEW YORK	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NORTH CAROLINA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
NORTH DAKOTA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	-
OHIO	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
OKLAHOMA	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx	xxx	-
OREGON	xxx	xxx	xxx	xxx	xxx	xxx	-	-	-	-
PENNSYLVANIA	xxx	-	-	-	-	-	-	-	-	-
RHODE ISLAND	xxx	-	xxx	xxx	xxx	-	-	-	-	-
SOUTH CAROLINA	xxx	xxx	xxx	-	-	xxx	xxx	-	xxx	-
SOUTH DAKOTA	xxx	xxx	xxx	xxx	-	-	-	-	-	-
TENNESSEE	xxx	xxx	xxx	xxx	xxx	-	-	xxx	-	xxx
TEXAS	xxx	xxx	xxx	-	-	xxx	-	-	-	xxx
UTAH	xxx	xxx	xxx	-	-	-	-	-	-	-
VERMONT	xxx	xxx	xxx	xxx	xxx	xxx	-	-	-	-
VIRGINIA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
WASHINGTON	xxx	xxx	xxx	xxx	xxx	xxx	-	-	-	-
WEST VIRGINIA	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	-	xxx
WISCONSIN	xxx	xxx	xxx	xxx	-	xxx	-	xxx	-	-
WYOMING	xxx	xxx	xxx	xxx	-	xxx	-	-	xxx	-
D.C.*	-	-	-	-	-	-	-	-	-	-

**Colorado and the District of Columbia provide no central training through the information resource organization*

Chapter Four

APPLICATIONS

States have developed a number of multi-agency information systems in recents years, especially in the areas of health and human services, statewide accounting, and personnel. This chapter also covers innovative systems applications reported by states as developed since January 1989.

MULTIAGENCY INFORMATION SYSTEMS DEVELOPED SINCE JANUARY 1989

Of the 50 states and the **District of Columbia**, 37 (73%) indicated that they have developed a multiagency information system within the last two years. The areas where new systems are being implemented or are fully operational is impressive. In fact, these 37 described 73 multiagency information systems (see Table 4.1). The health, welfare, and human services area reported the largest amount of multiagency cooperation. For example, **Arizona** has a multiagency system that functions as the state's Medicaid. The program is administered by the **Arizona** Health Care Cost Containment System and eligibility is determined by the Department of Economic Security. In **Georgia**, an on-line system used for determining eligibility and processing benefits for welfare involves three separate agencies: human resources, medical assistance, and labor. **Hawaii's** ASK-2000 is a telephone number which the public can use to call for assistance in health, welfare, stress, suicide, social services, aging, and other services. The program involves three agencies, Department of Health, Department of Human Services, and the Aloha United Way. **New York** has a Statewide Housing Activities & Reporting System which is a mainframe located within the Division of Housing and Community Renewal. SHARS establishes a central, consolidated database of all housing-related activity and provides comprehensive reporting tools for use by managerial, policy and executive level staff. Currently there are more than 40 housing programs administered by 14 state agencies.

The second most common type of multiagency information systems reported are statewide accounting systems. **West Virginia** is implementing a GAAP based system involving the use of both an IBM dual 3084 mainframe, located at Information Services and Communications, and a Unisys 6000 system, located at the Auditor Division. Other states that reported statewide accounting systems are **Alabama, Colorado, Florida, Maine, Maryland, Mississippi, Montana, North Carolina, Oregon, Texas, and Wyoming.**

Personnel was the third most common type of multiagency information system reported. Several different areas of personnel were reported that utilize multiagency information systems. They are general personnel systems, payroll, time and attendance, employee benefits and job tracking. General personnel systems, like the one found in **New Jersey**, are designed to facilitate the creation and subsequent maintenance of personnel and position transactions that are generated by state employees. Its Personnel Management Information System is a state-wide personnel processing system which manages personnel records for 80,000 state employees. **Alaska** has a payroll system set up by the Departments of Administration and Finance that is coordinated with all state agencies. Time and attendance systems are in place in **Connecticut and Rhode Island. Hawaii** reported employee benefit programs. **Hawaii's** integrated employees retirement system will be used to serve state and local employees and includes participation from the public employees retirement system, Department of Budget and Finance, city and county of Honolulu, and the counties of Maui and Kauai. **Virginia** reported having an apprenticeship tracking system.

Criminal justice systems were reported frequently by the states. **Delaware** has three systems it uses to better run its criminal justice system. The first, the **Delaware** Justice Information System, combines data from two different data bases. One takes data from criminal history maintained by the police and the other takes data from dispositions maintained by the courts. The two are merged together for use by all criminal justice agencies including judiciary, attorney general, public defender, corrections, and public safety. The system also provides voluntary assessments, providing statewide automated support and control of the data captured and processing of traffic ticket information. This system is used by local, county, and state police as well as the judiciary. Both of these systems are fully operational. The third criminal justice information system developing in **Delaware** deals with warrants. It is being implemented. Other states who have information systems in the field of criminal justice are **Georgia, New Mexico, New York, South Dakota, and Texas.**

Licensing was another area in which states reported having multiagency information systems. Three— **Georgia, Maine, and New Mexico** —have multiagency information systems set up for commercial licensing. **Georgia's** Commercial Driver License Information System establishes a **Georgia** system which is input into the national system for commercial drivers as a clearinghouse for all states. **Arizona** has a multiagency information system set up that coordinates drivers licenses and vehicle registration. **Michigan** has a multiagency information system set up by the Departments of Natural Resources and State that does licensing for hunting and fishing.

States reported having multiagency information systems for purchasing. **Iowa's** is called the Statewide Automatic Purchasing System. The system provides a fast, paperless ordering service for goods and services from the state's centralized purchasing section. **Missouri, Vermont, and West Virginia** also reported participating in multiagency purchasing information systems.

Another multiagency information systems cited was **Ohio's** Water Resources Information System which will consolidate all water information systems in the state. The departments of Natural Resources, and Transportation and the Ohio Environmental Protection Agency are the agencies involved.

In September of 1989, **North Carolina** began a pilot to create a public sector executive information system, designed to meet the specialized needs of government officials, not corporate executives. Full production was reached in April of 1990. The application has been a success, and is used daily by the governor, the chief of staff and the chief of State Information Processing Services. The governor's staff is also using the system to manage his calendar, and to communicate with the Governor's cabinet and Council of State.

INNOVATIVE SYSTEMS APPLICATIONS

A call for innovative systems elicited varied responses from the states. A wide range of systems applications were cited, but no particular patterns or majority responses exist. An overriding theme, however, is one of providing better service to the public through more effective uses of information technology. Some areas that were cited more than once are imaging and the development of optical storage, eligibility systems, and citizen access (see Table 4.2).

Florida, Connecticut, and Kansas reported having innovative systems applications for eligibility programs, while **Ohio and New York** both reported systems applications for human services use. **New York's** Alternative Food Stamp Issuance Program (ASFI), implemented in upstate counties by the Department of Social Service, combats the problems of errors, delays and voucher loss or pilfering. Each food stamp recipient in the participating counties receives a magnetic stripe card and a secret ID number to access the system. The recipient can then present the card to a participating grocer who enters the pertinent information into a point of sale device. The client is given the food stamps, the computer account is reconciled and transaction time and expense has been lowered significantly. **Ohio's** Department of Human Services Client Registry Information System-Extended (CRIS-E) is a comprehensive human services system providing Aid for Dependent Children, food stamps, Medicaid, Workfare, work programs, income/employment verification and general relief with more than 10,000 on-line terminals statewide.

Citizen access applications in **Hawaii's** FYI program allow users with personal computers and/or terminals to access public and private computer information services on a statewide basis. Terminals are also available for use at the public libraries.

Four systems applications reported as part of the survey also won awards as part of NASIRE's annual competition to recognize outstanding achievements in systems development.

Delaware has set up and implemented an imaging system. The "inbaskets" of approximately 80 Division of Corporations employees have been automated to permit the workstation-based flow of images (representing units of work) across multiple locations within the agency. Moreover, the workflow associated with the system can be extended outside the agency, to registered agents and authorized requestors of information, via remote-attached compatible systems, and PCs or FAX machines. A suite of tracking and statistical programs accompany the application to permit management reporting and resource manipulation.

In **Massachusetts**, escalating Medicaid costs have been identified as one of the state's "budget busters" whose uncontrolled growth has contributed to the state's bond fiscal crisis. At the same time, Medicaid providers and recipients were complaining that the system was a bureaucratic nightmare. Finding a way to lower Medicaid costs, keep providers happy, satisfy the needs of clients, and project an appearance of being in control of the situation was a public sector priority. Its Medicaid Recipient Eligibility Verification System (REVS) has been implemented to tackle these problems.

The Office of Vital Statistics of the **Kansas** Department of Health and Environment automated the collection, storage, retrieval, and dissemination of vital records (births, deaths, marriages, and divorces) in response to growing public dissatisfaction with the slow response for certified copies of the records. The Office devised a system using state-of-the art computer technology to not only improve customer service, but improve effectiveness and efficiency and reduce errors in the vital records system. The system linked disparate component technologies to combine the productivity and accuracy inherent in each unit.

Homicide Incident Tracking System (HITS) is a statewide, computerized information system designed to improve the investigation of murders and the apprehension rate of murderers. Its primary objective is to assist local law enforcement agencies in solving murder investigations. The objective is accomplished by collecting murder information from the 274 law enforcement agencies in **Washington** state. Most of the information that is entered into HITS is collected from individual case files with a data collection instrument (HITS form) that was designed for investigative purposes.

For a full listing of innovative systems applications please see Table 4.2.

TABLE 4.1
Multiagency Information Systems Developed since January 1989

ALABAMA

Name:	Financial Resources Management System
Description:	State accounting system
Agencies involved:	All agencies
Status:	Being implemented

ALASKA

Name:	Payroll
Agencies involved:	Administration/Division of Finance- Coordinated with all state agencies
Status:	Fully operational

ARIZONA

Name:	Prepaid Medical Management Information System
Description:	Arizona's version of Medicaid.
Agencies involved:	Administered by Arizona Health Care Cost Containment System (AHCCS) and eligibility is determined by the Department of Economic Security
Status:	Being implemented
Name:	Arizona drivers license and vehicle registration
Agencies involved:	Maintained by Department of Transportation and accessed by Department of Public Safety, Arizona Health Care Cost Containment System and Department of Economic Security
Status:	Fully operational

ARKANSAS

Name:	Digital imaging
Description:	IBM Image Plus initially for Arkansas State Teachers retirement program
Agencies involved:	Arkansas Department of Computer Services
Status:	Being implemented

COLORADO

Name:	Colorado Financial Reporting System (COFRS)
Description:	Statewide accounting system which also includes purchasing, grants and inventory functions
Agencies involved:	All in state government including interfaces to higher education
Status:	Being implemented

CONNECTICUT

Name:	Time and attendance
Agencies involved:	10
Status:	Fully operational
Name:	Automated budget system
Agencies involved:	All
Status:	Being implemented and fully operational
Name:	Eligibility Management System (ELMS)
Description:	Department of Income Maintenance
Agencies involved:	Departments of Income Maintenance, Housing, and Human Resources
Status:	Fully operational

DELAWARE

Name:	Delaware Justice Information System (DELJIS)
Description:	Merge - combined data from two data bases, merging criminal history maintained by the police with dispositional information maintained by the courts for use by all criminal justice agencies
Agencies involved:	Judiciary/attorney general/public defender/corrections/public safety
Status:	Fully operational
Name:	Delaware Justice Information System (DELJIS)
Description:	Voluntary assessments - provides statewide automated support and control of the data captured & processing of traffic ticket information.
Agencies involved:	Local county and state police as well as judiciary
Status:	Fully operational
Name:	Delaware Justice Information System (DELJIS)
Description:	Warrant/capias phase I- provides automated support for the development of arrest, summons/warrant, search warrant, information and indictment documents: achieves capture of the data entered to create the documents maintenance system to support the user development of standardized charge text in the documents and inquiry display.

Agencies involved: Local county and state police, attorney general, and judiciary
Status: Being implemented

FLORIDA

Name: State Automated Management Accounting System (SAMAS)
Agencies involved: Comptroller developed - used by all agencies
Status: Fully operational

Name: Cooperative Personnel System (COPES)
Agencies involved: Developed by Department of Administration - used by all agencies
Status: Being implemented

GEORGIA

Name: Public Assistance Information System (PARISOL)
Description: An on-line system for determining eligibility and processing benefits for welfare recipients
Agencies involved: Human resources, medical assistance, and labor
Status: Being implemented

Name: Commercial Driver License Information System
Description: Establishes a Georgia system which is input to the national system for commercial drivers as a clearinghouse for all states.
Agencies involved: Public safety, GBI, local law enforcement county agencies
Status: Fully operational

Name: Georgia Jury System
Description: A system to aid local governments in the selection of juries.
Agencies involved: Department of Administrative Services, superior courts
Status: Fully operational

HAWAII

Name: A base statewide image processing system
Description: Used for public access to annual company reports registered in Hawaii and for state rules and regulations
Agencies involved: Department of Commerce & Consumer Affairs and the Office of the Lieutenant Governor
Status: Being implemented

Name: An integrated employees retirement system
Description: Used to service state and local government workers
Agencies involved: Public Employees Retirement System, Department of Budget & Finance, City & County of Honolulu, County of Maui, and County of Kauai
Status: Being implemented

Name: ASK-2000
Description: Provides a single number which the public can call for assistance in health, welfare, stress, suicide, social services, aging, etc.
Agencies involved: Department of Human Services, Department of Health, and the Aloha United Way
Status: Fully operational

IDAHO

Name: Information Resource Management Electronic Network (IRMEN)
Description: E-mail/document exchange between agencies
Agencies involved: Most
Status: Being implemented

INDIANA

Name: Boat Excise Tax and Titling System
Description: The system is presently being used to edit the input data from boat registration and titling. In addition, the system calculates the amount of excise tax to be paid and the county where the tax is due. All collections for excise tax and fees are then balanced at the license branch on minis and forwarded to the mainframe. Reports and distribution of monies are then made to the Bureau of Motor Vehicles.
Agencies involved: Department of Natural Resources, and other state agencies
Status: Fully operational

IOWA

Name: Statewide Automatic Purchasing System
Description: Provides a fast, paperless ordering service for goods and services from the state's centralized purchasing section
Agencies involved: All agencies
Status: Fully operational

Name: Telecommunication Management System
Description: Used for all phone billing, assignments, inventory, and system planning.

Agencies involved: All agencies
Status: Fully operational

KENTUCKY

Name: Fiscal Executive Information System
Description: The Executive Information System will track appropriations, allotments and expenditures during fiscal biennium.
Agencies involved: Governor's Office for Policy and Management, Legislative Research Commission, Department of Information Systems Steering Committee: Fiscal Information Management Council
Status: Being implemented

Name: Integration of Women, Infants and Children
Description: The Women, Infants and Children program is maintained by the Cabinet for Human Resources and the Patient Encounter System used by local health departments.
Agencies involved: Cabinet for Human Resources - local health departments
Status: Fully operational

Name: Kentucky Motorboat Titling and Registration System
Description: The responsibility for titling and registration was transferred from circuit clerks to county clerks.
Agencies involved: Transportation, county clerks, and revenue
Status: Fully operational

MAINE

Name: Maine Financial and Administrative Statewide Information Systems (MFASIS)
Description: Standard payroll, personnel and accounting system for use by the entire executive branch and constitutional officers.
Agencies involved: All agencies
Status: Fully Operational

Name: New England Child Support Enforcement System (NECSES)
Agencies involved: Department of Human Services case workers in all branch offices and central offices
Status: Being implemented (in production but has not been formally accepted)

Name: Commercial Driver Licensing Information System (CDLIS)
Description: By April 1, 991, all U.S. commercial drivers will hold one license from the driver's state of residence which may be inquired via AMVANET.
Agencies involved: Secretary of State, Division of Motor Vehicles, Office of Information Services, Customer Support Division, Bureau of Data Processing, IBM and Electronic Data Systems of Texas
Status: Being implemented

MARYLAND

Name: Financial Management Information System
Description: Statewide integrated system including budgeting, financial, purchasing, personnel, payroll & position control application
Agencies involved: All agencies
Status: Being implemented

Name: Client Automated Resource Eligibility System (CARES)
Description: Automated calculation, tracking and management of welfare payments and medical assistance eligibility
Agencies involved: Departments of Human Resources, Health and Mental Hygiene, Baltimore Data Center
Status: Being implemented

MASSACHUSETTS

Name: PARIS
Description: Consolidated personnel reporting system
Agencies involved: All executive branch including higher education, legislative staff and constitutional offices
Status: Being implemented

MICHIGAN

Name: Assist
Description: On-line eligibility determination
Agencies involved: Social services, state, management & budget, employment services
Status: Being implemented

Name: Hunting/Fishing Licensing System
Agencies involved: Natural resources, state
Status: Being implemented

Name: Voice mail systems/enhanced call processing
Agencies involved: All agencies
Status: Being implemented

MISSISSIPPI

Name: Statewide Automated Accounting System
Agencies involved: Departments of Finance & administration, Education, Disability Determination Services, Central Data Processing Authority
Status: Being implemented

MISSOURI

Name: Automated Procurement System
Agencies involved: All agencies
Status: Fully operational

MONTANA

Name: Major upgrade to statewide budget. An accounting system (on-line) and payroll (on-line)
Description: Warrant writing
Agencies involved: Accounting division and all state agencies including universities, state auditor's office
Status: Fully operational

NEW JERSEY

Name: Personnel Management Information System
Agencies involved: All
Status: Fully operational

Name: Income Eligibility & Verification System (IEVS)
Agencies involved: DEA, MEDICAD, SSA, labor
Status: Being implemented

NEW MEXICO

Name: Jury drawing and empaneling
Description: The merger of voter registration and motor vehicle driver data to provide a more consistent and reliable jury select process on a statewide basis
Agencies involved: All district courts in the state of New Mexico
Status: Fully operational

Name: Women, Infants, Children Tracking System (WIC)
Description: Welfare assistance provided to un-wed or economically deprived mothers with infants, small children
Agencies involved: Health Environment Department (HED)
Status: Fully operational

Name: Commercial Driver License Information System (CDILIS)
Agencies involved: Motor vehicle driver services
Status: Being implemented - this system will be accessed by all 50 states

NEW YORK

Name: Statewide Housing Activities & Reporting System (SHARS)
Description: Establishes a central, consolidated database of all housing - related activity in New York State and to provide comprehensive reporting tools for use by managerial, policy, and executive level staff.
Agencies involved: 14 State agencies
Status: On-line

Name: Computerized Criminal History & Identification System (CCHIS)
Description: Offers continuous accessibility to criminal and non - criminal history data to authorized criminal justice users.
Agencies involved: Division of Criminal Justice Services plus 15 other regional, state and federal computer systems
Status: On-line

NORTH CAROLINA

Name: Statewide Uniform Accounting System
Description: Uses Dunn and Bradstreet Software (Formerly MSA)
Agencies involved: All agencies, departments and institutions
Status: Being implemented

Name: Executive Information System
Description: Uses IBM's Executive Decisions
Agencies involved: Governors's Office, Transportation, Revenue, State Information Processing Service
Status: Being implemented

Name: Imaging
Description: Uses IBM's Image Plus
Agencies involved: Office of State Personnel and Transportation
Status: Being implemented

NORTH DAKOTA

Name: Child support system for human services
Agencies involved: Human services, clerk of courts
Status: Being implemented

OHIO

Name: Employee Information Management System (EIMS)
Description: A payroll/personnel human resources information system
Agencies involved: All state agencies will use this system
Status: Being implemented

Name: Water Resources Information System
Description: This system will consolidate all of the current water information systems in the state.
Agencies involved: Natural Resources, Ohio Environmental Protection Agency, Department of Transportation
Status: Being implemented

OREGON

Name: Personnel
Description: Position data base
Agencies involved: Statewide
Status: Being implemented

Name: Statewide Financial Reporting System
Agencies involved: Statewide
Status: Being implemented

RHODE ISLAND

Name: Central Attendance and Time Reporting System
Agencies involved: Office of Information Processing
Status: Being implemented

Name: State Income Tax System
Agencies involved: Taxation and Office of Information Processing
Status: Fully operational

SOUTH CAROLINA

Name: State data network
Agencies involved: Departments of Highway and Public Transportation, Youth Services, Health and Environmental Control, and State Law Enforcement Division
Status: Fully operational

SOUTH DAKOTA

Name: Criminal Justice Information System
Description: Includes several systems in an integrated database which deal with law enforcement
Agencies involved: Commerce (Driver's License), Revenue (Motor Vehicle Registration, Boats), Game Fish & Parks (Accomplishment Reporting, Big Game Licensing), Attorney General (Criminal History), Unified Judicial System(Court Docketing, Accounting)
Status: Some systems are fully operational while others are under development

TENNESSEE

Name: ACCENT - Department of Human Service Certification
Agencies involved: Departments of Human Services, Health & Environment, and Employee Security
Status: Being implemented

Name: Regulatory board system
Description: General System to provide license, billing, tracking, and enforcement
Agencies involved: Departments of Commerce & Insurance, Health & Environment, and Agriculture
Status: Being implemented

Name: Tennessee Insurance System (TIS)
Description: Statewide employee health insurance system
Agencies involved: Departments of Finance & Administration, Personnel, all state agencies, higher education, local education and local government as users
Status: Being implemented

TEXAS

Name: Uniform Statewide Accounting System, Human Resource Information System (personnel/payroll), Budget Evaluation and Assessment Management System (budget & performance information)
Agencies involved: Being developed by Comptroller of Public Accounts for statewide implementation
Status: Being implemented

Name: Offender-Based Tracking System, Criminal Justice Information System
Agencies involved: Departments of Criminal Justice, and Public Safety
Status: Being implemented

VERMONT

Name: Purchasing
Description: Mainframe based
Agencies involved: All agencies
Status: Fully operational

VIRGINIA

Name: Apprenticeship Tracking System
Description: A centralized system to meet the requirements of state agencies involved in the program. It focuses on-the-job training
Agencies involved: Departments of Labor & Industry, and Education
Status: Fully operational

Name: Children Residential Facilities System
Description: Inter-departmental licensing and certification on all Virginia's children residential facilities
Agencies involved: Office of the Coordinator, and Department of Social Services
Status: Fully operational

Name: Case complaint clearinghouse index
Description: Inter-departmental information on the status of complaints in progress, history of closed complaints, and demographics on complaints
Agencies involved: Departments for the Aging, Medical Assistance Services, and Health.
Status: Fully operational

WEST VIRGINIA

Name: Statewide Accounting System
Description: GAAP based system involving use of both IBM dual 3084 mainframe (S&C) and Unisys 6000 system (Auditor Division)
Agencies involved: Statewide system
Status: Being implemented

Name: Purchasing System
Description: Automated tracking of purchasing process with accounting features from encumbrance through final payment
Agencies involved: All state agencies
Status: Being implemented

Name: Personnel System
Description: Automated information and tracking system for personnel actions
Agencies involved: All state agencies
Status: Being implemented

WYOMING

Name: Statewide Accounting System
Agencies involved: All agencies-on going process
Status: Being implemented

Name: Mass appraisal
Description: Standardizes property evaluation for equity throughout the state.
Agencies involved: Department of Revenue and county governments
Status: Fully operational

TABLE 4.2
Innovative Systems Applications

	Innovative Systems
ALASKA	The State Recorder's office has a joint venture with a private computer services vendor
ARIZONA	Imaging processing system in the Industrial Workman's Compensation Regulatory Agency. Claimed documents recorded on optical disk and indexing done on IBM compatible mainframe
CONNECTICUT	Eligibility Management System
DELAWARE	Imaging system
FLORIDA	Fully integrated economic eligibility system is being implemented by Health and Rehabilative Services and will provide on-line assistance in determining eligibility for a variety of social programs and allow the state to move to more generalized case worker while providing better service to clinic
HAWAII	Hawaii FYI is an information network that allows users with PCs and/or terminals to access public and private computer information services on a statewide basis. Terminals are also available for public use at the public libraries
IDAHO	Not an application, but procedure. Idaho established a state micro store. Use has saved the state over $250,000 in the last year plus tremendous savings in administrative costs. Used **California and Utah** as model and set up to prevent problems they encountered
ILLINOIS	Artificial intelligence - network diagnostics Benefits systems - personnel Image processing (being developed and implemented) Network control
INDIANA	Teachers Retirement Fund System
IOWA	Electronic benefits transfer allows recipients of aid from Department of Human Services to receivepayments from automatic teller machines
KANSAS	Use of optical storage on Vital Statistics (birth certificates)- operational Department of Transportation - Executive Information System - operational Information Technology Architecture Study - Produced blueprints for future information system development and a strategy for managing the Department of Transportation's information technology Kansas Automated Eligibility and Child Support Enforcement System - operational and certified
KENTUCKY	1990 Education Reform Act created the Council for Education Technology. The Council is responsible for development of a five year strategic plan for education technology which has both instructional and administrative components. The legislation requires that all of Kentucky's 176 school districts be linked by the 1991 school year for transmission of administrative that. Work is in progress. A Broad Parameters Report was issued by the Council in January 1991. Direction calls for a variety of instructional technologies to be accessible from every classroom
MAINE	A geographic information system is operational and is continuing to input data. Contact Dan Walter at 207/289-3897 for more information Maine Criminal Justice Information System is currently being implemented. It interfaces with national criminal databases, computerizes Maine's criminal records and will be available to courts, police at all levels of government and attorneys general. Contact Richard Gribbin at 207/289-3801 for information
MARYLAND	New FMIS will incorporate, to the extent it is feasible: case tools for development; English language user interface with RDBMS; Software specifically written to take advantage of relational technology; distributed relational databases; DSS; EIS
MASSACHUSETTS	Welfare - Recipient Eligibility Verification System. On-line check of welfare clients' eligibility for service by provider. Point of sale devices at the provider site and client magnetic strip cards have saved the commonwealth millions
MICHIGAN	Use of point-of-sale terminals; smart card technology; voice mail and enhanced call processing.
MISSISSIPPI	Non-exclusive license with a private company to make state information available to subscribers for a fee. This application is currently being developed
MONTANA	Public access to bulletin board Uniform Commercial Codes Legislative bill status Montana codes annotated on CD-Rom Livestock brands - most recent development is computer-generate brand image (graphic) Highways - CAD/CAM Financial management systems including payment consolidation Direct deposit Bad debt collection Electronic budgeting
NEVADA	Standardized CRT program (SPEED) Master services contract process User agency-performance contracts
NEW JERSEY	Integrated Planning and Budget is a state-of-the-art decision support and publishing system which supports all aspects of the state's budgeting and planning process. System has mainframe/mini/PC integration with word processing and electronic publishing

	Innovative Systems
NEW MEXICO	BMS map generator and CICS COBOL code generator that run in a VM/CMS development environment. These specific case tools have enhanced productivity anywhere from 20-40 %.
NEW YORK	Empire State Games
	Micro Application Processing System
	Alternative Food Stamp Issuance Program
	1-800-FOR-VOTE
	Tracking Unemployment Insurance Claims System
OHIO	Department of Human Services Client Registry Information System - Extended (CRIS-E) CRIS-E is a comprehensive human services system (AFDC, food stamps, general relief) with more than 10,000 on-line terminals statewide
OREGON	Use of voice response technology at our employment division
	An information technology lab to showcase new technologies
	Imaging project at Secretary of State
	Physicians workstation at our biomedical information and communication center
SOUTH CAROLINA	Client tracking systems
	Educational Television (Videos)
	Citizen Access
SOUTH DAKOTA	Secretary of State: UCC Agriculture Liens, Receipting System, Corporation System
	Commerce: Instant Issue Drivers License, data image being electronically transferred and stored on mainframe database.
TENNESSEE	Statewide Insurance System
TEXAS	Texas Evaluation & Assessment Management System (Dept. of MHMR) for development of individualized plan to meet client's needs, scheduling & ordering of services under development
	Registration & Title system (Department of Highways & Public Transportation) for motor vehicle registration by point-of-sale terminals in County Tax Offices-under development
	Automated Fingerprint Identification System (Department of Public Safety) - under development
VIRGINIA	Minority/female talent bank
	Applicant tracking
	Leave accounting system
	Integrated decision support system
WASHINGTON	Homicide Incident Tracking System is a database of homicide investigations done throughout the state (implemented)
	Department of License Imaging Retrieval System is implemented.
	Washington Higher Education Telecommunication Systems
WEST VIRGINIA	Recent installation of Database-II on Information Services and Communications mainframe (currently being tested) and formation of capitol complex telecommunications backbone for use by all Complex agencies
WYOMING	Mainframe telecommunications switching software for statewide law enforcement agencies is being implemented.
	Imaging system - Department of Revenue - being implemented
	Mainframe mass appraisal system for on-line access by counties - implemented

Chapter Five

Information Resource Planning and Initiatives

LEGISLATION MAKING INFORMATION RESOURCES MORE EFFECTIVE

Legislation Recently Passed

Of the 50 states and the **District of Columbia**, 19 reported recent legislation that makes information resources more effective (see Table 5.1). The most common type of legislation passed is that which centralizes agency responsibility. **Connecticut, North Carolina, Texas, Utah, and West Virginia** cited legislation designed to centralize responsibility of information resources. **Connecticut**, for example, consolidated information systems planning and policy responsibility in the Office of Policy and Management. **North Carolina, Utah, and West Virginia's** state legislatures provided for the combination of data processing and telecommunications. The **Texas** state legislature created the Department of Information Resources.

Increasing the amount of authority was the second most common type of legislation reported by the states. Three states--**Iowa, Kentucky, and Virginia**--reported legislation that increases authority. In **Iowa**, legislation has created the **Iowa** communication network which will link all governmental units, agencies and educational institutions in state for video, voice, and data communications using fiberoptic links. In **Kentucky**, the 1990 General Assembly expanded planning authority of the **Kentucky** Information Systems Commission to higher education. It also established the Communication Advisory Council as a sub-group to KISC to address planning for all types of government communication systems. **Virginia's** legislature established the Council on Information Management for the purpose of promoting the coordinated planning, practical acquisition, effective development, and efficient use of information technology resources serving the needs of agencies and institutions of higher education in the Commonwealth.

Restructuring and public access legislation accounted for two responses each. **Alabama's** state legislature established a telecommunications division and **Maine's** legislature, in July 1990, reorganized the Office of Information Services which resulted in the restructuring of some funding mechanisms, and clarified the responsibilities of the Office of the Policy Board.

Montana and Hawaii's legislatures passed bills enabling residents, visitors, and others to access information services.

The remaining seven states have passed legislation that is more specific. **Florida**, for example, has passed legislation that allows agencies to copyright software developed by the state. **California's** legislature has mandated disaster recovery planning and linkage of data center to super computer facilities.

Forthcoming Innovative Legislation

Of the 50 states and the **District of Columbia**, 18 reported innovative legislation that might be forthcoming (see Table 5.2). The reported innovative legislation would affect the organization of groups responsible for information resources. **Alaska, Florida, Montana, Nevada, and Utah** reported that upcoming legislation would attempt to centralize and consolidate existing information resource management groups.

Four states-- **Illinois, Maine, Ohio, and Virginia**-- indicated moving towards increasing the size and scope of their groups's responsibility. **Ohio and Virginia's** revisions are located within the procurement field. **Virginia** wants to raise the dollar threshold for agency independent procurement. **Ohio** wants to raise no bid acquisition from $10,000 to $25,000 through House Bill 762.

Two states, **Rhode Island and Vermont**, are looking to change the composition of their current information resources organization. **Vermont** wants to establish an information management *policy* committee, while **Rhode Island** wants to establish an information resource management organization.

Pennsylvania and Washington reported specific types of innovative legislation. **Pennsylvania** indicated computer security as a legislative area that needs attention. **Washington** indicated addressing secrecy legislation to protect battered women.

STRATEGIC PLANNING FOR INFORMATION RESOURCE MANAGEMENT

Thirty-five states and the District of Columbia (71%) have a strategic planning process for information technology. The two most important questions about the planning process are who initiates the plan and whom does the plan affect? Table 5.3 gives each state's response.

Who Initiates the Strategic Planning

An information resource department, division, office, commission, or some other information related organization initiates strategic planning in 17 states and the **District of Columbia**: **Alaska, Arkansas, California, Colorado, Delaware, Idaho, Kansas, Maine, Massachusetts, Minnesota, New Mexico, North Carolina, South Carolina, Tennessee, Virginia, Washington,** and **Wyoming.**

The planning process for information technology is initiated by someone else in executive branch agencies in seven states: **Hawaii, Illinois, New York, Ohio, Oregon, Pennsylvania,** and **Wisconsin.** Usually, the departments involve budget, finance, administration, or management, but may not be the overarching department of the state information resource organization.

Another seven states - **Connecticut, Florida, Kentucky, Mississippi, Montana, Oklahoma, and Texas** - receive their information technology strategic planning from their state's legislature. Strategic plans are initiated in the governor's office in three states, **Alabama, Nevada, and South Dakota. Nebraska** responded that it uses consensus for its strategic planning for information technology.

Who Is Affected

As important as who initiates the planning process is who is affected by the plan. In 22 states the planning process affects all state agencies. Another two states, **Florida** and **Washington,** have strategic plans that affect all in state government except the legislature. In two more states, **Minnesota** and **Montana,** strategic plans are tied to information services funding. **Minnesota** requires all agencies requesting funding for MIS development to come under a strategic plan. **Montana** requires all state agencies spending more than $10,000 on information systems to be a part of the strategic planning process. Strategic plans are limited to executive agencies in eight states - **Hawaii, Idaho, Illinois, Massachusetts, Nevada, New York, North Carolina,** and **Ohio.** In **Nebraska** the strategic planning process mainly affects application developers.

SUGGESTED INITIATIVES AT THE NATIONAL LEVEL

The survey respondents were asked to identify new initiatives that should be introduced at the national level to elevate the use and effectiveness of information technology. Of the 50 states and the **District of Columbia,** 22 identified 30 information technology issues that they felt needed attention at the national level. The major issues states identified with some consistency that should be introduced at the national level are standards, funding, and the Office of Management and Budget Circular Number A-130. Table 5.4 lists every suggestion.

Ten states-- **Florida, Kentucky, Maine, Massachusetts, North Carolina, Ohio, Texas, Washington, West Virginia, and Wisconsin** identified standards as important. Areas in software such as GOSIP, POSIX, UNIX, and GIS were cited.

Funding issues were cited by **Nevada, Ohio, and Tennessee,** especially when programs are multistate or are federally mandated.

Revision of OMB Circular No. A-130, was reported by **New Jersey and Virginia**. Both suggest that OMB Circular No. A-130 needs to reflect the role that states will play in the development of federal information resource management policy.

Arkansas suggested obtaining more federal flexibility in accepting state strategies for cost-recovery rate structures which include all acquisitions costs associated with data processing and telecommunications equipment. **New Mexico** suggested that information technology needs to be managed so as to not compete in the legislature against taxpayer projects. It should be protected from politics. **Maryland** suggested that workshops on computer assisted software engineering (CASE) technology, relational technology, and open systems are important.

TABLE 5.1
Recently Passed Legislation Which Has Made Information Resources More Effective

	Recently Passed Legislation
ALABAMA	A law establishing a telecommunication division
CALIFORNIA	Mandate disaster recovery planning Linking data center to super computer facilities
COLORADO	Have funded projects such as Colorado Financial Reporting System, and Digital Data Network
CONNECTICUT	Public Act 89-257 - consolidated the planning and policy responsibility in the Office of Policy and Management. The legislation also provides for responsibility for approving equipment, systems, consultants, and budgets (IS related)
FLORIDA	Legislation allowing agencies to copyright software developed by the state.
GEORGIA	Georgia Net Authority - allows state distribution of data to non-government entities
HAWAII	In 1988, the Department of Budget & Finance was directed to establish an information network to enable residents, visitors, and others to access information services. The law also created a quasi government corporation to assist private companies to develop information services
IOWA	Creation of Iowa Communication Network which will link all governmental units, agencies and educational institutions in state for video, voice, and data communications using fiberoptic links
KENTUCKY	1990 General Assembly expanded planning authority of Kentucky Information Systems Commission to higher education (KRS 61.95 and 61.950). The 1990 General Assembly established Communication Advisory Council as a sub-group to Kentucky Information Systems Commission to address planning for all types of government communication systems (KRS 61.950)
MAINE	Legislation first proposed by the Committee on Audit and Program Review reorganized the Office of Information Services, restructured some funding mechanisms, and clarified responsibilities of the Office and Policy Board
MONTANA	Requiring direct public access (UCC and bulletin board); Montana Educational Telecommunication Network (METNET1) Public access to Bulletin Board
NORTH CAROLINA	GS 143B-426.39(14) Telecommunications GS 143B-426.40 State Information Processing Services GS 143-426.21 Information Technology Commission All three combined in the Department of the State Controller
SOUTH CAROLINA	Role of mainframe vs. decentralized processing
TEXAS	HB 2736, 71st Legislature created Department of Information Resources
UTAH	1990 Session - combined divisions of data processing and telecommunications
VIRGINIA	Effective July 1988, Code of Virginia (2.1-563.28) established the Council on Information Management for the purpose of promoting the coordinated planning, practical acquisition, effective development, and efficient use of information technology resources serving the needs of agencies and institutions of higher education in the commonwealth
WASHINGTON	Inclusion of video technology into RCW 43.1051
WEST VIRGINIA	State Code 5A-7-1 thru 11 passed June 1990 formally established Information Services and Communication as a division and added telecommunications to the responsibilities of the division
WISCONSIN	Legislation to fund a strategic initiative

TABLE 5.2
Innovative Legislation Which May Be Forthcoming

	Forthcoming Innovative Legislation
ALASKA	Legislation is forthcoming to revise the current statutes in regards to the Telecommunications Information Council (TIC). When the TIC was established, there was no staff or money appropriated. As a result, the TIC has not been very active or effective. The forthcoming legislation would transfer TIC responsibilities back to the Department of Administration and recognize the Information Services Advisory Committee.
ARKANSAS	Departmental pool of positions
FLORIDA	Revising strategic information resource management planning law to make it more streamlined and effective.
ILLINOIS	Ability to service private universities with telecommunications services
INDIANA	Only revision to current statutes to change Information Services Division from a legislative funded department to a rotary fund
MAINE	Legislation to add representatives from state government law enforcement and natural resources agencies to the Information Services Policy Board
MASSACHUSETTS	Savings initiatives
MONTANA	Centralizing network management
NEVADA	Consolidated communications agency
NEW YORK	Legislative proposals have been made for the upcoming session that would amend the state Freedom of Information Law to revise the sections describing the provision of electronic information, and the manner in which agencies may set and collect fees for making information available to the public
OHIO	House Bill 762 will raise no bid acquisition ceiling from $10,000 to $25,000 and adopt the ABA's Mode Procurement Code which provides for "competitive negotiations" in the bid process
PENNSYLVANIA	Computer security
RHODE ISLAND	Establish information resource management organization
UTAH	Legislation combining the Department of Public Safety Microwave with the Division of Information Technology Services
VERMONT	Established an Information Management Policy Committee
VIRGINIA	Procurement act changes - to raise dollar threshold for agency independent procurement
WASHINGTON	Address secrecy legislation to protect battered women
WISCONSIN	A number of recommendations in the upcoming budget bill include utility, staffing for a new division, new Board, strategic planning project (pilot), distance learning/video responsibility, mobile radio study

TABLE 5.3
Strategic Planning for Information Technology - Who Initiates Planning and Whom It Affects

	Does Strategic Planning	Who Initiates	Year Strategic Planning Initiated	Whom Does It Affect
ALABAMA	yes	Governor's office	1987	All state agencies
ALASKA	yes	Telecommunications Information Commission, Division of Information Services	1989	All agencies
ARIZONA	*State plan is being developed.			
ARKANSAS	yes	Department of Computer Services	1985	Individual agencies
CALIFORNIA	yes	Office of Information Technology	1985	Entire state
COLORADO	yes	Commission on Information Management	1990	All state agencies
CONNECTICUT	yes	Legislature	1989	All except Labor Department
DELAWARE	yes	Info Systems Planning and Development	1983	Primarily the agency involved in the planning
FLORIDA	yes	Legislature	1983	Executive and judicial agencies
GEORGIA	no	-	-	-
HAWAII	yes	Department of Budget and Finance	1984	Executive branch
IDAHO	yes	Information Resource Management, Governor	1989	Executive agencies
ILLINOIS	yes	Central Management Services Agency director	-	All agencies under the Governor
INDIANA	no	-	-	-
IOWA	no	-	-	-
KANSAS	yes	Division of Information Systems and Communications	1989	All state agencies
KENTUCKY	yes	Legislature	1986	All including higher education
LOUISIANA	no	-	-	-
MAINE	yes	Office of Information Services	1986	All state government
MARYLAND	no	-	-	-
MASSACHUSETTS	yes	Office of Management Information System	1990	Executive branch
MICHIGAN	no	-	-	-
MINNESOTA	yes	Information Policy Office	1989	All agencies requesting funding for major information systems development.
MISSISSIPPI	yes	Legislature, Central Data Processing	1984	All state agencies
MISSOURI	no	-	-	-
MONTANA	yes	Legislature	1984	State agencies spending $10,000 or more for information systems
NEBRASKA	yes	Consensus	[illegible]	Application developers
NEVADA	yes	Governor	[illegible]	Statewide-Administrative branch concept plan. Agency plans coming on-line in 1993.
NEW HAMPSHIRE	no	-	-	-
NEW JERSEY	no	-	-	-
NEW MEXICO	yes	Information Systems Council	1983	Information Systems Council affects all agencies
NEW YORK*	yes	Division of the Budget, New York State Forum for Information Resource Management	1989	Executive branch agencies
NORTH CAROLINA	yes	Information Technology Commission	1983	Executive branch departments
NORTH DAKOTA	no	-	-	-
OHIO	yes	Department of Administrative Services director	1983	All agencies under Administrative Services - some exemptions
OKLAHOMA	yes	Legislature	1984	All state agencies & colleges
OREGON	yes	Executive Department	1990	All state agencies
PENNSYLVANIA	yes	Office of Administration	1991	All agencies, boards, commissions
RHODE ISLAND	no	-	-	-
SOUTH CAROLINA	yes	Information Technology Policy & Management	1985	All state entities
SOUTH DAKOTA	yes	Governor's office	1990	All state agencies
TENNESSEE	yes	Office for Information Resources	1989	All state agencies
TEXAS	yes	Legislature	1989	All agencies & higher education
UTAH	no	-	-	-
VERMONT	no	-	-	-
VIRGINIA	yes	Council on Information Management	1990	All agencies & higher education
WASHINGTON	yes	Information Services Board	1988	All agencies except legislative
WEST VIRGINIA	no	-	-	-
WISCONSIN	yes	Department of Administration/Central Policy and Planning	1991	All agencies
WYOMING	yes	Computer Technology Division	1989	All agencies
DISTRICT OF COLUMBIA	yes	Information Resources Management Administration	**	Will affect all department

New York - currently a pilot program* * Plan is under development*

TABLE 5.4
New Initiatives That Should be Introduced at the National Level to Elevate Information Technology

ARKANSAS	Obtain more federal flexibility in accepting state strategies for cost-recovery rate structures which include all acquisitions costs associated with data processing and telecommunications equipment
DELAWARE	Open systems/interoperability initiatives
FLORIDA	Federal standards development and coordination of data and information system requirements imposed by the federal government
IDAHO	Continue mandate in federal agencies to use GOSIP
ILLINOIS	Continued efforts for operation systems, and hardware and software compatibilities
KENTUCKY	Increased emphasis on development of and adherence to standards in hardware, software, security and data management. Comprehensive federal information policy for electronic records
MAINE	Standard federal interfaces for collection and distribution for data such as BPI for tapes and check digit for social security numbers
MARYLAND	Workshops on: CASE technology - status trends benefits and drawbacks; relational technology - where it is and where it is headed; open systems - what are realistic expectation for next five years
MASSACHUSETTS	Standards on geographic information systems, strong recommendation for state reorganization and the establishment of a chief information officer, strong recommendation that voice and data responsibilities be streamlined and located with one agency, and regulation to the courts
MONTANA	More current exchange of information. How about a Bulletin Board?
NEVADA	The Gore Bill (S-1067), and payment for public data access
NEW JERSEY	Continue the State Information Work Group sponsored by National Governors Association, Council of State Governments, National Conference of State Legislatures to provide input to OMB Circular No. A-130 on Federal Information Resources Management on the current draft revisions including states equal partners with the federal level, full participation in their own state information resource management efforts, address information cost/benefit issues, and define the dissemination roles of the public and private sectors
NEW MEXICO	Information technology needs to be managed so as to not compete in the legislature against taxpayer projects. It should be protected from politics
NORTH CAROLINA	Implementation of standards (OSI) and guidelines for policy issues (Public access, security, etc)
OHIO	Funding for multi-state projects; GIS & electronic infra-structure. Standards; GOSIP & POSIX
TENNESSEE	Federal government should define and supply major systems when mandating their use, such as Child Support, FAMIS, Medicaid
TEXAS	Continue development of standards started with federal government adoption of GOSIP. Coordinate standards for geographic information systems
VIRGINIA	Modify OMB Circular No. A-130 to reflect proper role for the states in the development of federal information resource management policies, standards, and guidelines
WASHINGTON	POSIX/UNIX/Imaging/GIS all need more national exposure/guidance/standardization
WEST VIRGINIA	The development of standards in all areas of information services should be addressed nationally
WISCONSIN	A stronger standards effort with state input through National Association of State Information Resource Executives
DISTRICT OF COUMBIA	Development of specifications for specialized state and local government functions to encourage vendors to write programs for these functions. Vendors might see a sufficient market too

Chapter Six
INFORMATION RESOURCE MANAGEMENT ISSUES

TRENDS IN INFORMATION TECHNOLOGY

Table 6.1 gives a description of the use of new technology and trends in each state as reported by that state. Responses fall loosely into three categories: systems technologies, information technologies and management trends.

Trends in Systems Technologies

The role of the microcomputer and its communication with other microcomputers and information systems has grown tremendously in recent years and continues to do so, according to responses received identifying trends in the use of technology in the states. Processing power has moved from central processing units to desktops. **Arizona, Arkansas, Florida, Massachusetts, Montana, Nevada, South Dakota,** and **Virginia** all specifically mention the role of microcomputers or PCs in trends in their states. **Montana** responded that its person-to-computer ratio is one to five, and by January 1992, the ratio will be one to four. **Nevada** reports that "PC use has doubled since 89/90 and will double again in 91/93."

For many other states, the trend has moved beyond the increased role of microcomputers to the issue of communication. With the number of microcomputers growing, the need for networking also has grown. **Arkansas** and **West Virginia** mentioned networking in general. **Maine, Maryland,** and **Oregon** noted that they are moving to distributed systems, and **Idaho** mentioned that it was moving to open systems. Thirteen other states specifically identified local area networks (LANs) and wide area networks (WANs) as technologies being more actively implemented.

Besides networking, several states noted trends in related areas of voice mail, voice mail integration, and digital communications. **Montana, New Mexico,** and **South Dakota** see trends in voice mail and integrated communications. **New Jersey** is moving towards digital communications whenever there is funding. Finally, **Virginia** and **West Virginia** also indicated digital communications but added ISDN.

Trends in Information Technologies

Imaging, database management, and geographical information systems (GIS) were new technologies related to information and most often cited by states. The states citing each of these technologies are:

• Imaging	Arizona, Delaware, Hawaii, Kansas, Kentucky, Montana, New Jersey, New Mexico, New York, and Washington
• Data management	Arizona, Kansas, Kentucky, Maine, New York, Tennessee, Virginia, and West Virginia
• GIS	Colorado, Delaware, Hawaii, New Mexico, New York, Washington, and West Virginia

Ten states responded that they saw imaging gaining more importance. However, most states indicated more of an interest in imaging, and implementation seems to be limited to only very large agencies in the states that have started implementation (see **Kentucky** and **New York**). Next, eight states said that they were considering data management issues. **Kentucky, Virginia,** and **West Virginia** were specifically looking at implementing relational database management systems. Finally, geographical information systems have received a lot of attention both by technology publications and by governments at all levels including the seven states listed.

Trends in Management

Three management trends that were listed deal with funding, standards, and state information resource management coordination. Five states responded that funding was an issue for them. **Iowa, New Jersey,** and **North Carolina** indicated that limited resources and budget constraints hindered improved information resources. **Michigan** noted that budget constraints have lead to "looking to technology to help them(agencies) cope with drastic budget cuts."

A few states mentioned standards and state information resource management coordination. **Montana, New York,** and **Ohio** are dealing with setting standards for information. **Texas** is in the process of better coordinating information resource management functions. In **Indiana** the state has implemented the *Use Information Technology Products & Services* program statewide in order to "promote effeciency, quality, and cost effectiveness through information resources."

IMPORTANT IRM ISSUES FOR 1991

Better service to the public and strategic planning were at the top of the list of information resource issues ranked by respondents. Respondents were asked to rate information resource management issues on a scale from 1-4, where 1= very important and 4= not important. Table 6.2 shows how each state rated the issues. Overall, "Better service to the public" rated the highest. Strategic planning ranked second followed by "More effective use of information technology." Some of the lower rated information resource management issues include classification of skilled information professionals, better information resource management coordination with local governments, and improved cooperative projects with industry. A complete ranking of issues is found at right.

Importance of Information Resource Management Issues

Ranked highest to lowest in importance

	Highest
Better Service to the Public	1.2
Strategic Planning for Information Technology	1.4
More Effective Use of Information Technologies	1.5
Upper Management Commitment	1.5
Coordination of IRM Activities Among and Between Agencies	1.6
Improved Planning and Budgeting Relationships	1.8
Improved Inter-system Communication	1.9
Information Newtworks and Systems Development	2.0
Quality Assurance	2.0
Training/Instruction	2.1
Addressing New Human Resource Management Issues	2.2
Identification of New Technologies	2.2
Classification of Skilled Information Professionals	2.6
Better IRM Coordination with Local Governments	3.0
Improved Cooperative Projects with Industry	3.1
	Lowest

TABLE 6.1
State Reports on New Information Technology Uses and Trends

	Uses and Trends
ALABAMA	Active.
ALASKA	Local area networks and wide area networks are being used to a greater extent.
ARIZONA	Move toward more micros, relational databases, and user involvement in development. There is a lot of interest in image processing.
ARKANSAS	More emphasis on networked microcomputers.
CALIFORNIA	Most large agencies are aggressively capitalizing on the value resulting from new and emerging technologies. Availability of budget is outstripped by demand.
COLORADO	Lot of focus on geographical information systems and imaging, very little has been implemented.
CONNECTICUT	Some agencies are up-to-date, others are lagging behind.
DELAWARE	Very limited. Increasing interest in imaging and geographic information systems as well as the use of Intellect software.
FLORIDA	More use of microcomputer and local area networks to address workgroup computing needs.
HAWAII	State government is emerging as the leader in telecommunications and new information technology. Microwave backbone will pave way for agencies to have information systems that employ new technology (image, GIS, video conference centers, etc.)
IDAHO	Many agencies moving from proprietary to open systems.
ILLINOIS	Generally "leading edge" in about all areas of communications and data processing products and services.
INDIANA	Expanding. One of the goals of the Administration is to promote efficiency, quality, and cost effectiveness through the Use Information Technology Products & Services.
IOWA	The use of new technology has been constrained by the reduction in funding sources.
KANSAS	There is an increasing reliance on microcomputer to provide information processing services. More agencies now have a relational database management system. There also is a growing interest in computer assisted software engineering and optical disk technology.
KENTUCKY	There is increasing interest in graphical user interfaces and presentation managers for executive decision support as an alternative to new systems development. The use of newer technologies such as imaging is widely recognized as a need but continues to be largely unaffordable for many agencies. Several of the larger agencies are trying to standardize on relational database technology for new systems development at the desktop and departmental levels. This trend is bringing increasing attention to data management standards and data management tools.
MAINE	Distributed information systems. Database management - viewing information as a governmental resource to design and implement connectivity between systems. Mid-frame ORACLE platforms provide connectivity to DB2 from mainframe applications.
MARYLAND	Distributed Processing - movement away from centralized systems to more consideration given to computing where it makes the most sense and where it is better cost justified.
MASSACHUSETTS	Implementation of local area networks (PC based) and connection of LANs to a wide area network.
MICHIGAN	Everyone is looking to technology to help them cope with drastic budget cuts.
MISSISSIPPI	Using LANs more effectively. Moving to wide-area (statewide) networks and a statewide backbone network. Seeing a return to use of the mainframe as an effective way to implement statewide solutions economically.
MONTANA	Use of microcomputers continues to grow. The person-to-computer ratio is approximately 1:5, and will be 1:4 by January, 1992. More computers are being networked, and standardization of software and hardware is generally well accepted by agencies. Montana will be implementing a voice mail system, and anticipates voice response with interfaces to computer applications systems. Montana is investigating imaging, and plans to issue a statement of direction for imaging in late 1991. Agencies in Montana state government have crossed the technology barrier and are looking at more and more creative ways to meet increasing demands for service in the most effective way -- which uses technology.
NEVADA	Currently, way behind the crowd, but catching up for proven systems. PC use has doubled since 89/90 and will double again in 91/93.
NEW JERSEY	Due to fiscal crisis, new acquisitions have become extremely limited. However, LAN installation and use of optical disk technology have increased. We are also replacing analog with digital communications when funding is available.
NEW MEXICO	GIS, imaging, printing, workstations, integrated communications, voice mail.
NEW YORK	There is growing reliance on desktop technology for newer applications and high interest in LANs to tie individual workstations together within single organizations. GIS are of growing importance and are the subject of an interagency work team looking at common standards, information sharing issues, and statewide policy considerations. Many agencies are beginning to investigate and implement image technologies to help handle document-intensive operations.
NORTH CAROLINA	Telecommunications - Leadership by State Info Processing Services (SIPS) - new and improved services initiated and implemented by SIPS off automation.end user computing - end user initiated - SIPS responding to their requests. Data processing -slow to initiate new techniques and technologies due to limited resources, long learning curve, and current demands on staff.
NORTH DAKOTA	User are installing LANs.
OHIO	More multi-agency application being developed, more statewide standards being implemented(e.g. GOSIP)

	Uses and Trends
OKLAHOMA	All the agencies are very progressive in the review and utilization of technology and new trends.
OREGON	Departure from central processing to distributed processing. Increase use of case tools. Expanding use of local and wide area networks.
PENNSYLVANIA	Move away from mainframe-based data processing toward a more decentralized environment.
SOUTH CAROLINA	Above average for government agencies.
SOUTH DAKOTA	Large PC base, 70-80% connected via LANs and on a common E-mail system. Voice mail.
TENNESSEE	Technology is providing the means to share data which is supplying means of saving millions.
TEXAS	Fragmented - Department of Information Resources is just beginning to effect coordination and standards.
VERMONT	Slow to adapt new technologies.
VIRGINIA	More procurements and installation of relational data base technology (PC and Mainframe), local area networks, and high speed data transfer through T1 and ISDN networks.
WASHINGTON	We see a trend towards imaging, video technology and GIS.
WEST VIRGINIA	Increased use of networking, GIS, relational databases, ISDN, and digital communications.
WYOMING	State-of-the-art.
DISTRICT OF COLUMBIA	Lagging behind Federal government and progressive among local governments.

TABLE 6.2

Importance of Information Resource Functions for 1991 as Ranked by the State.

1=very important 4=not important

	Addressing New Human Resource Management Issues	Strategic Planning for Information Technology	Coordination of IRM Activities Among & Between Agencies	Identification of New Technologies	Better IRM Coordination with Local Government	Upper Management Commitment	Quality Assurance
ALABAMA	2	1	2	3	3	2	2
ALASKA	3	2	1	3	3	3	3
ARIZONA	1	1	1	2	3	2	2
ARKANSAS	1	1	2	2	3	1	2
CALIFORNIA	2	1	2	2	3	1	2
COLORADO	4	1	2	2	4	1	3
CONNECTICUT	2	1	1	2	3	2	2
DELAWARE	1	1	1	1	4	1	1
FLORIDA	1	2	1	3	2	1	1
GEORGIA	1	1	1	1	1	1	1
HAWAII	1	1	1	3	4	1	1
IDAHO	2	1	1	2	3	1	2
ILLINOIS	3	3	2	1	2	2	3
INDIANA	1	3	3	2	4	2	1
IOWA	4	1	1	3	2	1	4
KANSAS	1	1	1	3	4	1	2
KENTUCKY	2	1	1	2	2	1	1
LOUISIANA	4	1	1	2	3	2	2
MAINE	3	1	1	2	3	2	2
MARYLAND	2	1	2	2	3	1	2
MASSACHUSETTS	2	1	2	2	2	1	2
MICHIGAN	3	1	1	3	3	2	1
MINNESOTA	1	1	1	2	2	1	1
MISSISSIPPI	2	1	1	2	2	1	2
MISSOURI	4	2	3	3	4	1	1
MONTANA	4	2	2	2	3	2	2
NEBRASKA	4	1	1	2	1	1	1
NEVADA	2	2	1	1	3	2	1
NEW HAMPSHIRE	1	1	2	1	4	1	1
NEW JERSEY	2	1	1	2	4	2	1
NEW MEXICO	1	1	1	1	3	2	3
NEW YORK	3	1	3	2	2	1	3
NORTH CAROLINA	2	1	2	1	3	1	1
NORTH DAKOTA	2	1	1	1	2	1	1
OHIO	3	2	1	3	2	1	2
OKLAHOMA	3	2	1	3	3	1	2
OREGON	2	1	1	3	2	1	2
PENNSYLVANIA	2	2	1	2	4	2	2
RHODE ISLAND	4	2	2	2	4	2	3
SOUTH CAROLINA	1	1	3	3	4	3	4
SOUTH DAKOTA	3	1	2	2	4	2	3
TENNESSEE	2	1	1	2	3	2	1
TEXAS	3	4	4	2	3	4	3
UTAH	3	1	1	4	1	2	3
VERMONT	1	4	3	2	4	1	3
VIRGINIA	1	1	2	2	4	1	2
WASHINGTON	4	1	3	4	4	2	3
WEST VIRGINIA	1	3	1	2	4	1	1
WISCONSIN	2	1	1	3	3	1	3
WYOMING	1	1	2	3	2	2	2
DISTRICT OF COLUMBIA	2	1	1	2	4	1	2

	Training/ Instruction	More Effective Use of Information Technologies	Information Networks and Systems Development	Classification of Skilled Information Professionals	Improved Planning and Budgeting Relationships	Improved Cooperative Projects with Industry	Improved Inter-system Communication	Better Service to the Public
ALABAMA	1	2	2	4	3	4	2	1
ALASKA	1	1	3	3	1	3	2	1
ARIZONA	3	2	1	2	1	3	2	1
ARKANSAS	2	1	1	1	2	4	1	1
CALIFORNIA	2	2	2	3	2	3	3	1
COLORADO	4	1	1	4	1	4	1	1
CONNECTICUT	2	1	1	2	1	3	2	1
DELAWARE	1	1	1	4	1	4	1	1
FLORIDA	1	1	2	2	3	3	3	1
GEORGIA	1	1	1	1	1	2	1	1
HAWAII	2	1	1	2	1	4	3	1
IDAHO	2	1	1	4	2	2	2	1
ILLINOIS	2	2	2	3	3	2	2	1
INDIANA	1	1	1	3	1	4	1	1
IOWA	3	1	2	3	2	4	1	1
KANSAS	3	1	2	2	2	4	1	1
KENTUCKY	2	1	1	1	2	3	2	1
LOUISIANA	3	2	2	4	1	3	2	2
MAINE	3	1	1	4	2	4	2	1
MARYLAND	1	1	1	3	2	4	1	2
MASSACHUSETTS	3	2	3	2	1	3	2	1
MICHIGAN	3	2	1	2	2	3	1	1
MINNESOTA	2	1	1	1	1	1	1	1
MISSISSIPPI	2	2	1	2	1	2	2	2
MISSOURI	3	1	2	4	3	4	4	1
MONTANA	2	1	1	1	1	4	2	1
NEBRASKA	1	2	2	3	2	4	3	1
NEVADA	2	2	3	2	1	2	3	2
NEW HAMPSHIRE	2	1	1	2	2	4	1	1
NEW JERSEY	2	1	1	2	1	3	1	1
NEW MEXICO	1	2	2	1	2	2	3	1
NEW YORK	3	1	2	3	2	3	2	1
NORTH CAROLINA	1	2	1	3	2	3	1	1
NORTH DAKOTA	1	1	1	3	3	2	2	1
OHIO	2	1	1	4	2	2	1	1
OKLAHOMA	2	2	2	2	1	1	1	1
OREGON	1	3	2	3	3	2	1	1
PENNSYLVANIA	3	1	2	3	1	2	1	1
RHODE ISLAND	4	1	1	3	1	4	3	1
SOUTH CAROLINA	3	2	1	2	3	2	2	1
SOUTH DAKOTA	3	1	2	3	2	4	3	3
TENNESSEE	2	2	1	3	3	4	1	2
TEXAS	3	3	3	3	4	3	4	3
UTAH	3	1	2	3	2	4	2	1
VERMONT	1	1	1	3	1	4	2	2
VIRGINIA	2	2	2	2	1	3	2	1
WASHINGTON	3	1	2	3	2	4	2	3
WEST VIRGINIA	2	1	1	3	3	1	2	1
WISCONSIN	2	1	2	2	1	4	3	1
WYOMING	3	4	3	3	2	4	3	1
DISTRICT OF COLUMBIA	1	1	2	3	1	3	1	1

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